MASS. GC4. BTP 96: M38

UMASS/AMHERST

31206016960932

Massachusetts' Tax Competitiveness

Massachusetts Special Commission
on
Business Tax Policy

GOVERNMENT DOCUMENTS
COLLECTION

FEB 17 1993

University of Massachusetts
Depository Copy

by

Robert Tannenwald
Research Director of the
Massachusetts Special Commission

April 15, 1993

KN

Digitized by the Internet Archive
in 2013

http://archive.org/details/massachusettstax00tann

MASSACHUSETTS' TAX COMPETITIVENESS

Do Massachusetts' taxes hinder its ability to compete economically? While this issue is as old as Massachusetts itself, it is one of the most important facing the Commonwealth today. In a world of intense economic rivalry, the Commonwealth must compete aggressively to attract and to retain employers. If its taxes are impeding its ability to do so, changes in its tax structure that will restore its competitive position deserve serious consideration. On the other hand, if the Commonwealth's business tax climate is attractive, its attractiveness should be publicized and the myth of "Taxachusetts" put to rest.

This working paper, prepared by the staff of the Massachusetts Special Commission on Business Tax Policy, evaluates Massachusetts' tax competitiveness. It asks: 1) How sensitive are businesses and households to interstate tax differentials in choosing where to locate? 2) What are the most frequently cited indicators of tax competitiveness? 3) How does Massachusetts rank according to each? and 4) Which indicators are the best? The report searches for answers to these questions from four sources: empirical studies, economic theory, interviews with consultants that advise businesses on where to locate, and an economic model developed specially for the Massachusetts Special Commission on Business Tax Policy.

EXECUTIVE SUMMARY

o In general, Massachusetts' overall tax structure is neither a liability nor an asset in interstate economic competition.

-Massachusetts ranks in the middle according to those tax burdens that most influence business location and economic growth: 1) The total tax burden on upper-income households and 2) The degree to which taxes depress the rate of return on business fixed investment.

-The evidence concerning whether interstate differences in tax burdens materially affect economic growth and locational choice is inconclusive.

-Virtually all empirical studies have found that factors other than interstate tax differences are more important determinants of business location. These factors include the availability of appropriately skilled labor, the cost of labor, the quality of public education, the availability of energy, regulatory burden, and proximity to markets.

o Several statistics widely cited in the debate about the Commonwealth's business tax climate are not useful indicators of tax competitiveness. They have confused rather than clarified the issue.

I. A Brief Review of the Empirical Evidence Concerning the Impact of State and Local Taxes on Economic Growth and Business Location

Ten years ago, the thrust of empirical studies on whether state and local tax differentials affect economic growth or business location was very clear. The vast bulk of these studies detected little or no effect. Consequently, the majority of economists believed that tax policy was an ineffective instrument of interstate competition.

Tax experts attributed the absence of a detected tax effect primarily to two factors. First, they pointed out that state and local taxes account for a very small fraction of the cost of doing business. Consequently, their impact is swamped by other factors exerting a much larger impact on a firm's bottom line, such as labor costs, the availability of labor with appropriate skills, proximity to raw materials, proximity to markets, regulatory burden, energy costs, and climate. Indeed, most studies have found that these non-tax factors are the prime locational determinants. Second, tax experts theorized that states with high taxes tend also to provide public services of high quality that businesses value, such as public education, police and fire protection, and the construction and maintenance of public infrastructure.

During the past ten years, economists have continued their attempts to measure the impact of interstate tax differentials on economic growth and locational choice. Many studies continue to find this impact to be insignificant. Unlike in the 1950-1980

period, however, several studies have found that differences among states in tax characteristics do affect economic growth and site selection. These studies have generated a considerable amount of interest among both academics and members of the business community. It is still too early to draw strong policy conclusions from these new findings. However, one can no longer summarily dismiss the notion that business tax differentials affect interstate location.

There are several possible explanations for the recent change in evidence:

1. The national and world economy have become more competitive.

2. Footloose industries--those that do not need to be located close to their markets or sources of raw materials and are, therefore, capable of operating at a wide variety of alternative sites--now account for a larger share of the economy.

3. Advances in telecommunications have made many firms more footloose, regardless of industry.

4. Economists have better data at their disposal, have improved their models of locational choice, and have developed more sophisticated econometric techniques.

5. Compared with their older counterparts, recent studies tend to examine the impact of interstate tax differentials on an industry-by-industry basis. They find that these differentials affect the locational choices of firms in some industries but not others.

6. State and local taxes account for a larger share of total costs than they used to.

7. The studies finding that interstate tax differentials "matter" are flawed, and subsequent scrutiny will expose their biases.

A comprehensive review of the literature concerning the impact of interstate tax differentials on business location and

state economic growth is beyond the scope of this study. A review of the studies conducted since 1979 was recently conducted by Michael Wasylenko (1991). A summary table prepared by Wasylenko, augmented by descriptions of several studies that have been published since he completed his analysis, appears in Appendix A.

Wasylenko divided this literature into three groups: 1) analyses of microdata, using both survey research and econometrics, 2) studies that estimate the impact of tax differentials on aggregate growth in employment (in some studies disaggregated by industry), and 3) studies that examine the impact of tax differentials on aggregate trends in the growth of capital investment or income.

Most of the studies in the first group--especially surveys of business executives--still find, as they have for the past 40-plus years, that state and local taxes rarely are an important determinant of business location. If you ask business managers (within the context of survey research) whether state and local taxes "matter," most say "not much."

Several of the studies in the second and third groups find that interstate differences in tax characteristics have a statistically significant, negative relationship with growth in employment, income, and capital spending. However, there is little agreement on which tax characteristics exert such negative effects. For example, some studies find that corporate tax

burdens "matter;" others find that they do not. The same is true of property tax burdens.

The findings of these studies on the impact of personal income tax characteristics on economic growth are also mixed. One study (Wasylenko 1988) found a negative relationship between income tax progressivity and growth in total employment, employment in transportation, and employment in wholesale trade. The same study found a **positive** relationship between income tax progressivity and growth in manufacturing employment. Another study (Wasylenko and McGuire 1985) found no relationship between income tax progressivity and total employment growth. The same study found a weak, negative relationship between a state's personal income tax burden on upper income households and growth in employment in wholesale trade, retail trade, and financial services. Yet, in their 1987 study, which analyzes a different set of data, McGuire and Wasylenko found no such relationship.

Two Significant Findings In the Empirical Literature

1. *The Papke Studies*. Two studies done by Leslie Papke (1987, 1991) are noteworthy because she measures a state's tax burden on business more precisely than other analysts. The 1987 study estimates the link between capital formation within a state and the extent to which the state's tax system depresses the rate of return on business fixed investment (the effective tax rate on marginal investment). Her 1991 study explores the impact of this effective tax rate on business starts. She found that this

effective tax exerts a negative effect on both capital formation and business starts.

Papke's method of estimating state business tax burden is similar to that used by Dr. Stephen Brooks, consultant to the Commission, in his analysis of Massachusetts' tax competitiveness. The results of his analysis are presented in a separate volume and summarized in Section IV of this working paper.

2. *The impact of overall tax burden on measures of economic growth*. Several studies have found that total state and local tax burden bears an inverse relationship to economic growth. For example, Munnell (1990) and Wasylenko (1988) found an inverse relationship between state and local taxes as a percentage of personal income and growth in aggregate employment. It is possible that these studies have confused cause and effect. Economic growth may cause tax burdens to fall, rather than vice-versa. A state's tax burden can fall sharply if its personal income grows rapidly but, even in the absence of tax cuts, its tax revenues do not grow proportionately (that is, its state and local taxes are "inelastic" with respect to income).

Some Important Caveats

Some important caveats are in order concerning all recent studies of the impact of interstate tax differences on economic growth and business location. First, the economics profession has been slow to test the robustness of the results of these studies by trying to replicate them using data from other time

periods and for other states. What little replication that has been attempted has found different, sometimes contradictory results.[1] It is particularly noteworthy that Dr. Brooks found much less variation in interstate tax burdens than Papke, using a very similar methodology but analyzing different states, industries, and years. The Commission is collecting the data needed to test the validity of Papke's results more extensively. It is recommended that the Commission perform such tests as part of its new assignment--advising the Massachusetts Department of Revenue in its analysis of the impact of increasing the state investment tax credit from 1 percent to 3 percent.[2]

Recent studies have also found that interstate differences in state and local spending levels exert more of an effect on economic growth and productivity than originally thought. In particular, higher state and local spending on public infrastructure and education have been found to stimulate growth in employment.[3] These results imply that business tax incentives financed by reductions in certain categories of spending could negatively affect growth. They also imply that increasing the proportion of state and local spending devoted to public education or the repair of roads and bridges could promote economic growth in a cost-effective manner.

Finally, while the evidence on the impact of interstate tax differences on economic growth is mixed, a clear link has been found between tax differences among municipalities and locational choice within a metropolitan area. This link has strong

implications for the Commonwealth's state tax policy. Parts of New Hampshire and Rhode Island are on the fringes of the metropolitan areas of various Massachusetts cities. Large differences in state tax burdens between the Commonwealth and these neighboring states could drive both businesses and households over the border.

II. Characteristics of a Useful Indicator of Tax Competitiveness According to Economic Theory

Given the inconclusiveness of the empirical evidence, what insights does economic theory provide into the best means of evaluating Massachusetts' tax competitiveness?

Economic theory suggests that business executives are primarily interested in making profits. Consequently, the most useful indicators of tax competitiveness focus on those state and local taxes that directly impinge on the profitability of business. Examples include corporate income taxes, property taxes on industrial and commercial property, and sales taxes on business inputs.

Business executives are also concerned, to a lesser extent, about individual taxes, especially highly visible, unpopular ones like the residential property tax and the personal income tax.[4] Employees often demand additional wages to compensate for these taxes. Consequently, according to economic theory, measures that compare the burdens of these taxes across states are also relevant indicators of tax competitiveness.

Economic theory suggests that businesses should be more sensitive to the tax burden on high-income households than low-income households. Firms usually fill their lower-paid positions by recruiting in-state. Employers are much more likely to encounter interstate competition for managers and professional workers, who generally belong to upper middle-income and high-income groups. Managers responsible for locational decisions generally fall into these income groups as well. Tax burdens borne by the households in these income categories are therefore more relevant to a state's competitive position than tax burdens as a whole.

Any indicator of tax competitiveness should estimate tax burdens with reasonable accuracy. Furthermore, economic theory suggests that it should capture the impact of a state's tax structure on firms' long-run profitability. When well-informed business executives weigh alternative sites for a facility, they are concerned about the tax burdens that the facility will bear over its entire lifetime, not just during the first few years of its existence.

III. Commonly Cited Misleading Measures of Tax Competitiveness

The number of indicators cited in debates about tax competitiveness are so numerous that a discussion of each of them is beyond the scope of this report. This section discusses seven such measures. Tables comparing Massachusetts according to other indicators are provided in Appendix B.

All tables in this working paper that rank states according to a measure of tax competitiveness do so in order of increasing competitiveness. In other words, the higher the rank, the less competitive the state.

Revenue Burden and Tax Burden

Perhaps the most widely cited indicator of a state's tax competitiveness is its revenue burden, the sum of its taxes, fees, and charges as a percentage of its personal income. In state fiscal year 1991 (FY91), Massachusetts' revenue burden ranked 38th among the 50 states and the District of Columbia (Table 2). It also compared favorably with the revenue burden of its 17 principal economic competitors (Chart 1).[5]

While widely cited, revenue burden is a poor indicator of tax competitiveness because it fails to discriminate among taxes, fees, and charges in terms of their relative importance to business. Troubled by this drawback, some analysts prefer to compare states in terms of their combined state and local **tax** burden. They reason that businesses may resent taxes more than user fees and charges because the latter focus the burden of financing public services more on those who benefit from them. As a result, firms can see more clearly what they are getting for their money. Because Massachusetts relies more on taxes and less on user fees and charges than other states, its tax burden ranks higher than its revenue burden. Nevertheless, in FY91 its tax burden was just below the national average and ranked 25th among the states and the District of Columbia. Its tax burden ranked

Table 1
Massachusetts' Principal Economic Competitors, As Identified by the Massachusetts High Technology Council[1]

Neighboring	High Technology	Industrial
Connecticut	Arizona	Illinois
Maine	California	Michigan
New Hampshire	Maryland	New Jersey
Rhode Island	North Carolina	New York
Vermont	Texas	Ohio
	Washington	Pennsylvania

[1]Note: These states are sometimes referred to as the "Social Contract" states. See endnote 5 in the text for an explanation of the origin of this name and why these states have been identified as Massachusetts' prinicipal economic competitors.

Table 2
State and Local Own-Source Revenues Per $1,000 of Personal Income, FY91, by State

State	Revenues per $1000 Personal Income	Rank
MASSACHUSETTS	**$144.31**	**38**
UNITED STATES	**155.38**	
SOCIAL CONTRACT	**154.56**	
NEW ENGLAND	**136.99**	
Connecticut	130.21	47
Maine	157.07	22
New Hampshire	122.17	50
Rhode Island	146.83	34
Vermont	167.73	13
HIGH TECH	**153.75**	
Arizona	169.87	10
California	158.73	21
Maryland	136.78	43
North Carolina	141.66	41
Texas	147.59	33
Washington	162.83	17
INDUSTRIAL	**157.26**	
Illinois	135.70	44
Michigan	161.49	19
New Jersey	142.11	40
New York	194.12	4
Ohio	146.12	36
Pennsylvania	134.08	45
ALL OTHER STATES	**157.20**	
Alabama	145.26	37
Alaska	523.91	1
Arkansas	133.71	46
Colorado	154.13	27
Delaware	166.11	15
Florida	149.21	32
Georgia	150.74	30
Hawaii	188.83	5
Idaho	155.68	24
Indiana	149.85	31
Iowa	165.64	16
Kansas	151.81	29
Kentucky	157.06	23

Table 2 (cont'd)
State and Local Own-Source Revenues Per $1,000 of Personal Income, FY91, by State

State	Revenues per $1000 Personal Income	Rank
Louisiana	176.81	8
Minnesota	184.32	7
Mississippi	154.43	26
Missouri	124.03	49
Montana	154.71	25
Nebraska	162.45	18
Nevada	146.81	35
New Mexico	201.65	3
North Dakota	185.90	6
Oklahoma	160.20	20
Oregon	169.54	11
South Carolina	153.24	28
South Dakota	142.22	39
Tennessee	129.63	48
Utah	166.43	14
Virginia	139.44	42
West Virginia	168.24	12
Wisconsin	170.27	9
Wyoming	247.76	2
MEDIAN	154.57	

Source: U.S. Bureau of the Census, Governmental Finances 1990-91 and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Chart 1

State and Local Own-Source Revenues Per $1,000 of Personal Income, FY91

Massachusetts and Average for Selected Groups of States

Source: US Bureau of the Census, Governmental Finances, 1990-91, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

seventh among its principal economic competitor states and third among each of the three subcategories of these states (Chart 2 and Table 3).

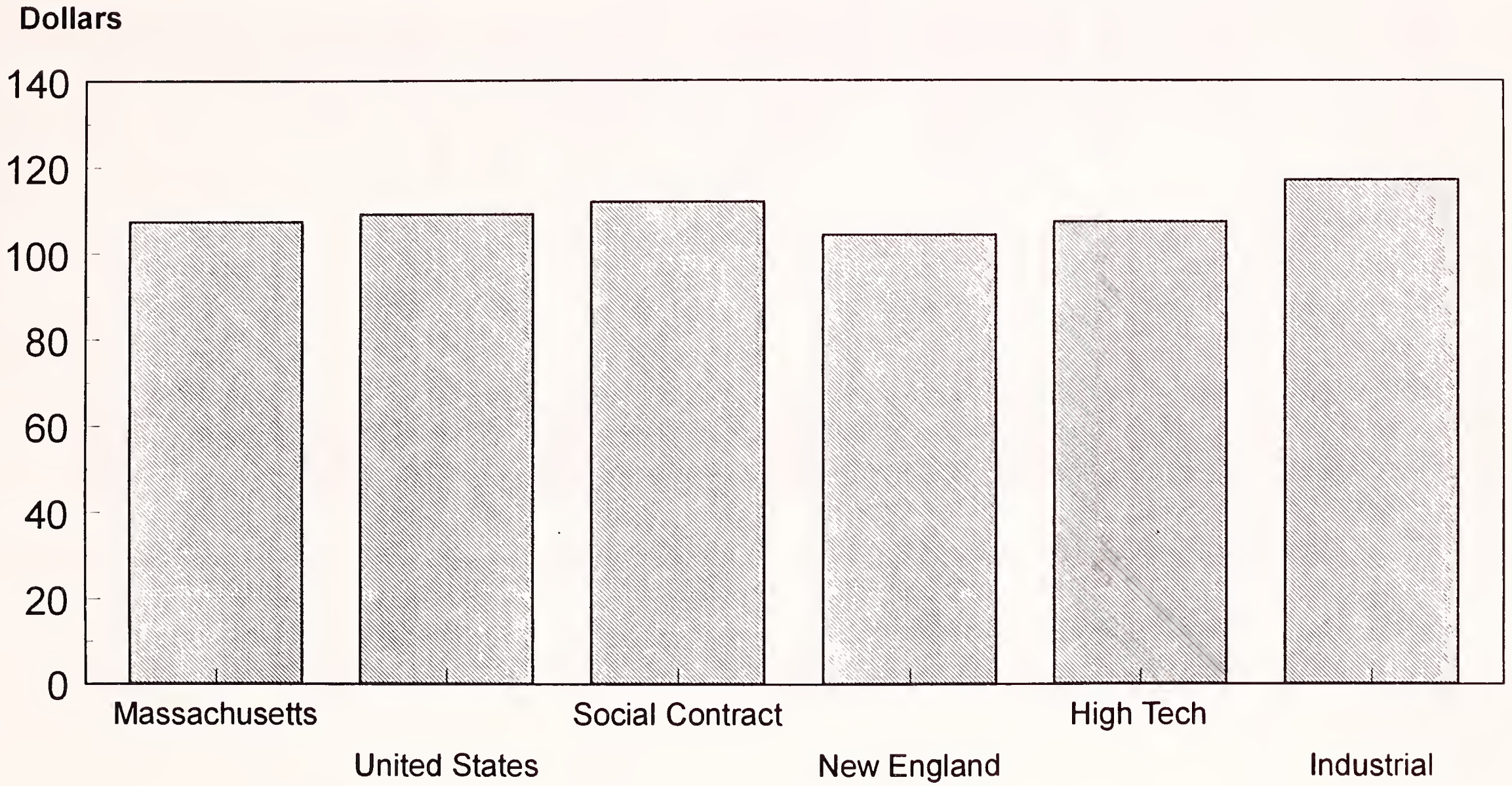
Economic theory suggests that tax burden is still too broad a measure to serve as an indicator of tax competitiveness. However, as noted in Section I, two recent empirical studies (Munnell 1990 and Wasylenko 1988) found that tax burden is negatively correlated with employment growth. Regardless of whether tax burden "matters" or not, Massachusetts' tax burden is not out of line.

Personal Income Tax Burden and Property Tax Burden

Personal income tax burden is the ratio of state and local personal income taxes paid to statewide personal income. If business executives are highly sensitive to interstate differences in this ratio (as economic theory suggests), then Massachusetts has reason to be concerned. In FY91 the Commonwealth had the third highest personal income tax burden in the nation. While nationwide state and local personal income tax collections were 2.3 percent of personal income, in Massachusetts they were 3.9 percent. Only two other economic competitors, New York and Maryland, had an equal or higher personal income tax burden (Chart 3 and Table 4).

While economic theory suggests that personal income tax burden is a relevant component of business tax climate, the empirical evidence concerning the link between this burden and economic growth is mixed. In addition, the deductibility of

Chart 2
State and Local Taxes Per $1,000 of Personal Income, FY91
Massachusetts and Average for Selected Groups of States



Source: US Bureau of the Census, Governmental Finances, 1990-91 and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Table 3
State and Local Taxes Per $1,000 of Personal Income, FY91, by State

State	Taxes per $1000 Personal Income	Rank
MASSACHUSETTS	**$107.33**	**25**
UNITED STATES	**109.10**	
SOCIAL CONTRACT	**111.93**	
NEW ENGLAND	**104.19**	
Connecticut	102.47	32
Maine	116.50	10
New Hampshire	88.02	48
Rhode Island	110.98	17
Vermont	117.93	8
HIGH TECH	**107.29**	
Arizona	120.91	7
California	109.49	21
Maryland	102.93	30
North Carolina	99.24	38
Texas	101.99	33
Washington	114.79	11
INDUSTRIAL	**117.00**	
Illinois	102.86	31
Michigan	112.91	14
New Jersey	108.25	23
New York	148.49	2
Ohio	104.21	28
Pennsylvania	97.75	41
ALL OTHER STATES	104.30	
Alabama	87.89	49
Alaska	209.27	1
Arkansas	91.25	46
Colorado	101.26	34
Delaware	99.96	37
Florida	96.36	43
Georgia	103.05	29
Hawaii	135.31	3
Idaho	104.59	27
Indiana	101.24	35
Iowa	112.57	15
Kansas	105.35	26
Kentucky	110.67	18

Table 3 (cont'd)
State and Local Taxes Per $1,000 of Personal Income, FY91, by State

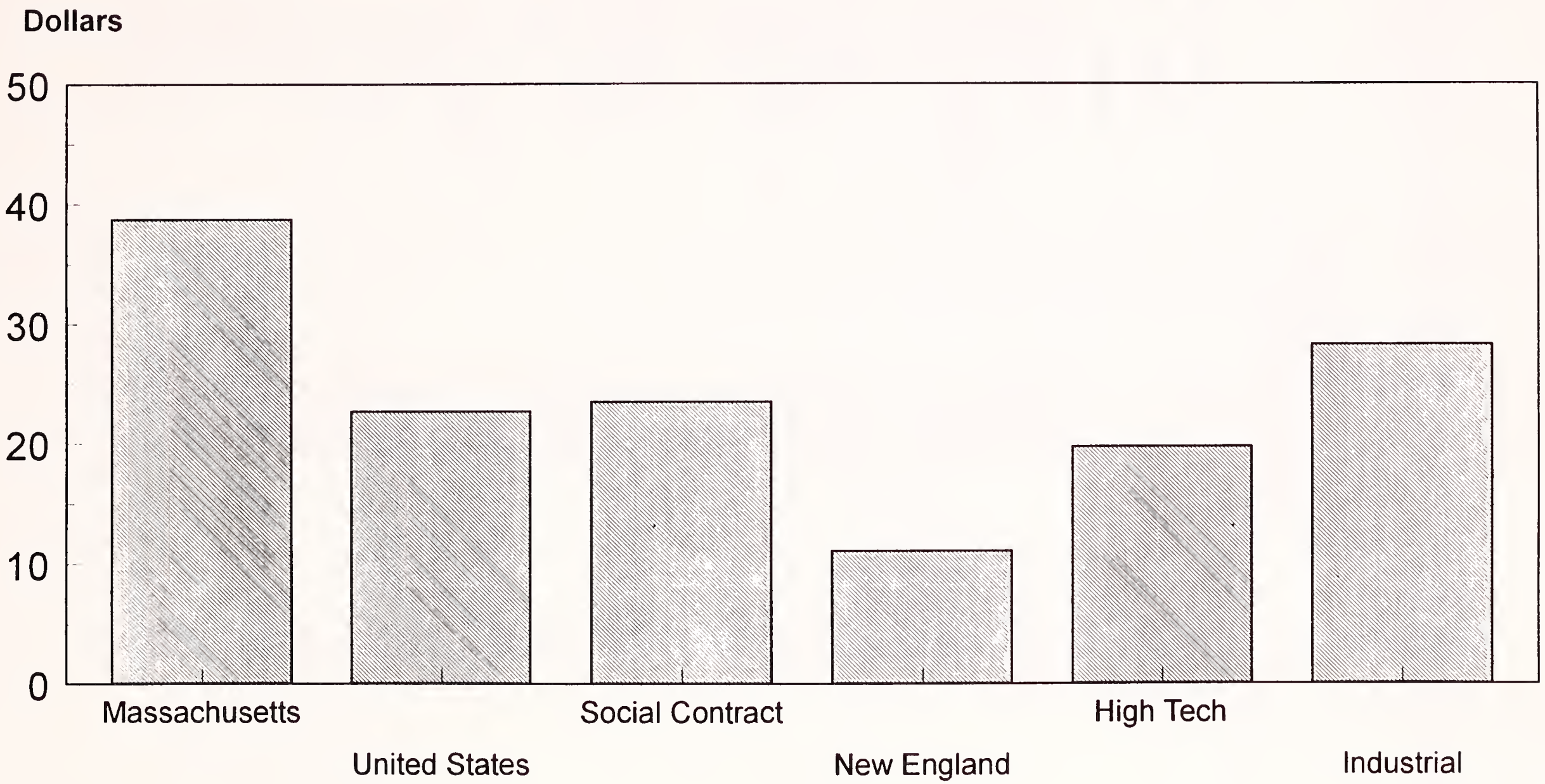
State	Taxes per $1000 Personal Income	Rank
Louisiana	109.94	20
Minnesota	122.75	6
Mississippi	97.88	40
Missouri	89.01	47
Montana	93.59	44
Nebraska	110.36	19
Nevada	98.19	39
New Mexico	117.60	9
North Dakota	111.16	16
Oklahoma	107.53	24
Oregon	114.76	12
South Carolina	100.89	36
South Dakota	92.63	45
Tennessee	85.53	50
Utah	109.43	22
Virginia	97.59	42
West Virginia	113.99	13
Wisconsin	124.09	5
Wyoming	133.16	4
Median	106.34	

Source: U.S. Bureau of the Census, Governmental Finances, 1990-91 and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Chart 3

Personal Income Tax Revenues Per $1,000 of Personal Income, FY91

Massachusetts and Average for Selected Groups of States



Source: US Bureau of the Census, Governmental Finances, 1990-91, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Table 4
Personal Income Tax Revenues Per $1,000 of Personal Income, FY91, by State

State	Personal Income Tax Revenues per $1000 Personal Income	Rank
MASSACHUSETTS	**$38.74**	**3**
UNITED STATES	**22.71**	
SOCIAL CONTRACT	**23.46**	
NEW ENGLAND	**11.06**	
Connecticut	5.54	41
Maine	26.95	15
New Hampshire	1.54	42
Rhode Island	22.25	29
Vermont	25.25	20
HIGH TECH	**19.73**	
Arizona	20.04	32
California	26.55	16
Maryland	40.10	2
North Carolina	31.13	11
Texas	0.0005	45
Washington	0.00	46
INDUSTRIAL	**28.23**	
Illinois	18.97	35
Michigan	23.89	23
New Jersey	17.02	36
New York	42.69	1
Ohio	31.44	10
Pennsylvania	22.67	25
ALL OTHER STATES	20.02	
Alabama	19.36	33
Alaska	0.00	46
Arkansas	22.88	24
Colorado	22.43	26
Delaware	34.32	8
Florida	0.00	46
Georgia	25.53	19
Hawaii	36.30	5
Idaho	28.00	12
Indiana	25.88	17
Iowa	27.85	13
Kansas	19.27	34
Kentucky	35.30	6

Table 4 (cont'd)
Personal Income Tax Revenues Per $1,000 of Personal Income, FY 91, by State

State	Personal Income Tax Revenues per $1000 Personal Income	Rank
Louisiana	12.56	39
Minnesota	35.09	7
Mississippi	13.88	38
Missouri	22.13	30
Montana	22.33	28
Nebraska	21.37	31
Nevada	0.00	46
New Mexico	16.30	37
North Dakota	11.54	40
Oklahoma	24.69	22
Oregon	38.63	4
South Carolina	25.19	21
South Dakota	0.002	44
Tennessee	1.19	43
Utah	27.61	14
Virginia	25.63	18
West Virginia	22.38	27
Wisconsin	33.79	9
Wyoming	0.00	46
MEDIAN	23.38	

Source: U.S. Bureau of the Census, Governmental Finances, 1990-91 and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

state and local personal income taxes from federal taxable income narrows interstate differences among states in the effective burden of these taxes. The federal government recoups the tax revenue lost from the deduction for this tax by imposing higher tax rates than it otherwise would. As a result, part of the burden of each state's personal income tax ultimately is borne by all federal taxpayers. The same holds true for the burden of residential property taxes.

The Commonwealth's property tax burden, more competitive than its personal income tax burden, was 21st among those of the 50 states and the District of Columbia in FY91 (Table 5). Nationwide, property taxes were taking $35 of every $1000 of personal income, while in Massachusetts they were taking $36. The gap between the U.S. and Massachusetts' property tax burden has narrowed steadily over the past 15 years, thanks primarily to Proposition 2 1/2. The Commonwealth's property tax burden was below the average of the 17 economic competitor states and below the averages for the New England and Industrial subcategories (Chart 4).

Property tax burden is an unreliable indicator of tax competitiveness because property taxes have both a residential and a nonresidential component. Business executives regard the residential component as a personal cost, diminishing their own disposable income and that of their employees. Consequently, the residential property tax burden is best measured by computing revenues as a percentage of personal income. Since executives

Table 5
Property Tax Revenues Per $1,000 of Personal Income, FY 91, by State

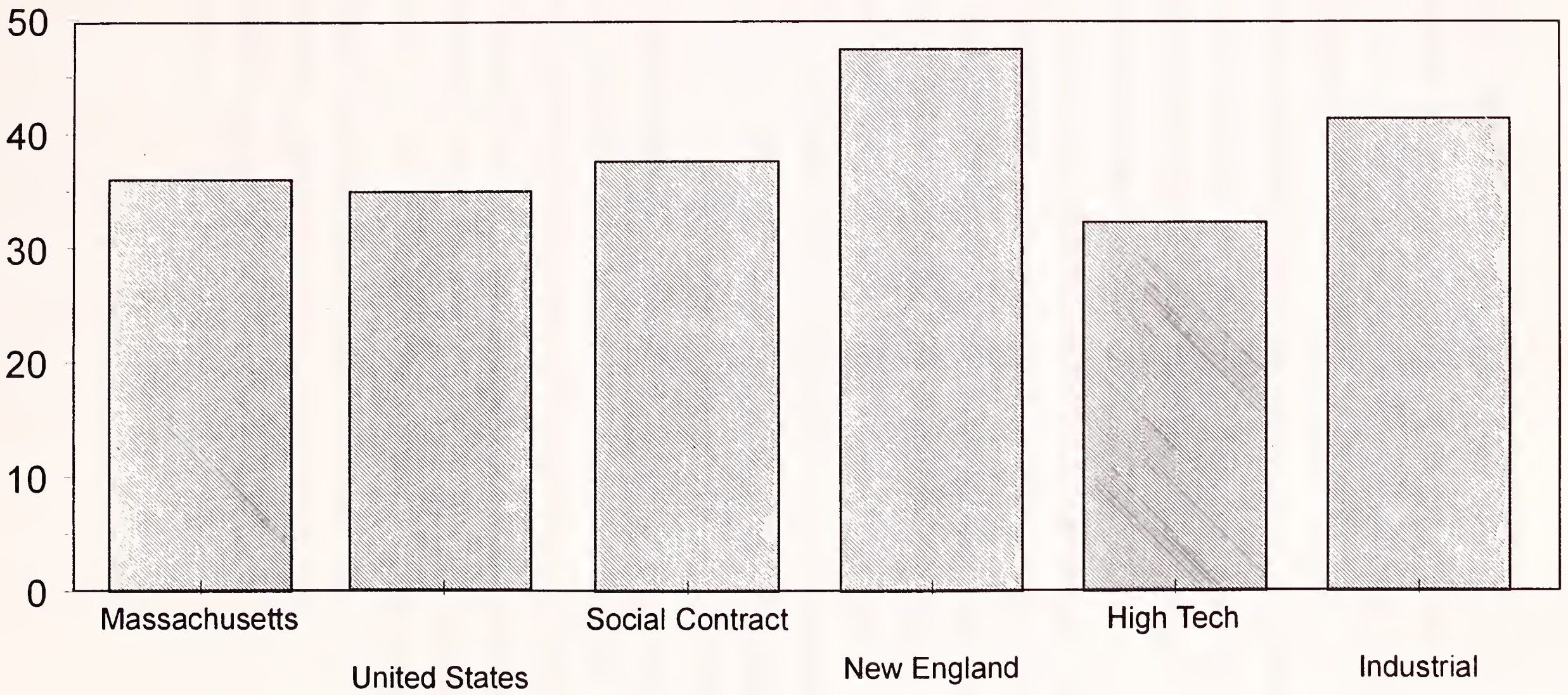
State	Property Tax Revenues per $1000 Personal Income	Rank
MASSACHUSETTS	**$36.08**	**21**
UNITED STATES	**34.88**	
SOCIAL CONTRACT	**37.59**	
NEW ENGLAND	**47.39**	
Connecticut	43.72	12
Maine	45.64	10
New Hampshire	61.65	1
Rhode Island	45.78	9
Vermont	51.43	4
HIGH TECH	**32.28**	
Arizona	39.92	14
California	30.67	29
Maryland	27.78	35
North Carolina	22.68	39
Texas	39.43	16
Washington	32.08	27
INDUSTRIAL	**41.33**	
Illinois	37.88	17
Michigan	47.92	8
New Jersey	48.97	7
New York	48.98	6
Ohio	30.43	30
Pennsylvania	29.10	31
ALL OTHER STATES	30.02	
Alabama	11.00	50
Alaska	57.53	2
Arkansas	16.54	46
Colorado	35.64	23
Delaware	14.94	49
Florida	36.18	20
Georgia	29.04	32
Hawaii	20.32	41
Idaho	27.83	34
Indiana	33.23	25
Iowa	39.67	15
Kansas	37.74	18
Kentucky	17.71	45

Table 5 (cont'd)
Property Tax Revenues Per $1,000 of Personal Income, FY 91, by State

State	Property Tax Revenues per $1000 Personal Income	Rank
Louisiana	18.31	44
Minnesota	37.53	19
Mississippi	25.83	37
Missouri	21.05	40
Montana	33.36	24
Nebraska	41.99	13
Nevada	23.04	38
New Mexico	15.16	48
North Dakota	32.40	26
Oklahoma	16.11	47
Oregon	49.90	5
South Carolina	27.34	36
South Dakota	36.07	22
Tennessee	19.96	42
Utah	28.45	33
Virginia	31.78	28
West Virginia	19.08	43
Wisconsin	44.41	11
Wyoming	53.92	3
MEDIAN	32.81	

Source: U.S. Bureau of the Census, Governmental Finances, 1990-91 and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Chart 4
Property Tax Revenues Per $1,000 of Personal Income, FY91
Massachusetts and Average for Selected Groups of States



Source: US Bureau of the Census, Governmental Finances, 1990-91, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

regard the nonresidential component as a cost of doing business, its burden is best measured by calculating its revenues as a percentage of business profits.

All the data required to construct these measures are not readily available. Economists encounter formidable statistical difficulties when they try to decompose each state's property tax revenue into its residential and nonresidential components. Estimates of residential and nonresidential portions of each state's real property tax base, comparable across states, are made only once every five years in the U.S. Census of Governments and the data are released to the public with a two-to-three-year lag. Official statistics breaking down the value of each state's taxable personal property into its business and individual components are not collected at all. Standardized data on the average property tax rates levied by each state on each type of property are not collected either.[6]

Indicators Focusing on Burdens of Business Taxes

Several indicators of tax competitiveness focus on the burdens of those taxes for which businesses are legally liable and therefore most directly affect their "bottom line." Measuring their burden on a state-by-state basis is difficult for several reasons:

- The burden of business taxes should reflect taxes paid relative to profits. Measuring profits on a state-by-state basis is extremely difficult, if not impossible.

- Taxes that are levied on both businesses and individuals, such as the sales tax and the property tax (as noted above), are difficult to disaggregate into their business and individual components.
- The burden of all business taxes is ultimately borne by people. A business is a group of people organized to produce or distribute goods or to provide services. While the business may write the check to the government for taxes owed, the money to pay the taxes must come from the owners of the business (in the form of reduced after-tax profits), the employees of the business (in the form of reduced compensation), or the customers of the business (in the form of higher prices). The burden of a business tax, especially the property tax and corporate profits tax, may be spread across a broad spectrum of individuals as households and businesses adjust their behavior to tax-induced changes in prices, rates of compensation, and rates of profit. Who ultimately bears the burden of a business tax, especially those on corporate profits, is one of the major empirical mysteries of public finance. Most would agree, however, that many business taxes stick far from where they hit.

Alaska understands this point well. Its state and local governments rely heavily on severance taxes and property taxes imposed on oil companies. The burden of these taxes is borne by

consumers of energy throughout the world. Similarly, Wyoming exports a large portion of its tax burden by taxing its coal industry. These states do not have abysmal tax climates. They are simply fortunate enough to have an abundance of energy resources.

1. *Statutory corporate tax rate.* Some groups contending that the Commonwealth's business tax climate is unattractive point to its high statutory rate of tax on corporate profits, the seventh highest among the 43 states with a corporate profits tax (Table 6). This indicator fails to take into account other taxes and fees paid by businesses, such as taxes on personal property and net worth, real estate taxes, license taxes, sales taxes on business inputs, and user charges. It also fails to take into account differences in the way in which states define taxable corporate income. Some states with a high statutory rate may define taxable profits narrowly, allowing relatively generous deductions and exclusions or granting generous credits against the tax.

2. *Corporate tax collections as a percentage of "business-related" income.* Massachusetts ranked 12th according to this statistic in FY91 (Table 7). The statistic defines a state's business-related income as the sum of proprietor's income, dividends, rents, and interest earned by the state's residents. Business-related income is no more closely related to corporate profits than is personal income. Massachusetts' residents are paid dividends out of corporate profits earned throughout the

Table 6
Highest State Statutory Tax Rate on Corporate Profits, by State, as of 1993

State	Percent Rate	Rank
MASSACHUSETTS	**9.50**	**7**
NEW ENGLAND	**9.14**	
Connecticut	11.50	3
Maine	8.93	11
New Hampshire	8.00	15
Rhode Island	9.00	10
Vermont	8.25	14
HIGH TECH	**5.56**	
Arizona	9.30	9
California	9.30	9
Maryland	7.00	20
North Carolina	7.75	18
Texas	X	--
Washington	X	--
INDUSTRIAL	**7.72**	
Illinois	4.80	28
Michigan	2.35	31
New Jersey	9.00	10
New York	9.00	10
Ohio	8.90	12
Pennsylvania	12.25	1
ALL OTHER STATES	**6.36**	
Alabama	5.00	27
Alaska	9.40	8
Arkansas	6.00	24
Colorado	5.40	26
Delaware	8.70	13
District of Columbia	10.00	5
Florida	5.50	25
Georgia	6.00	24
Hawaii	6.40	23
Idaho	8.00	15
Indiana	3.40	30
Iowa	12.00	2
Kansas	4.00	29
Kentucky	8.25	14
Louisiana	8.00	15
Minnesota	9.80	6
Mississippi	5.00	27
Missouri	5.00	27
Montana	6.75	21
Nebraska	7.81	17

Table 6 (cont'd)
Highest State Statutory Tax Rate on Corporate Profits, by State, as of 1993

State	Percent Rate	Rank
Nevada	X	--
New Mexico	7.60	19
North Dakota	10.50	4
Oklahoma	6.00	24
Oregon	6.60	22
South Carolina	5.00	27
South Dakota	X	--
Tennessee	6.00	24
Utah	5.00	27
Virginia	6.00	24
West Virginia	9.00	10
Wisconsin	7.90	16
Wyoming	X	--

X = Not applicable.
Source: Commerce Clearing House, State and Local Tax Guide, CCH Inc., Chicago, February 1993.

Table 7
State and Local Corporate Tax Collections as a Percentage of Business-Related Income, FY91, by State

State	S & L Corporate Tax Collections as a Percentage of Business-Related Income	Rank
MASSACHUSETTS	**2.10**	**12**
NEW ENGLAND	**1.51**	
Connecticut	2.38	6
Maine	1.34	31
New Hampshire	1.91	15
Rhode Island	.98	39
Vermont	.95	41
HIGH TECH	**1.17**	
Arizona	1.25	33
California	2.78	5
Maryland	1.09	36
North Carolina	1.90	16
Texas	.00	47
Washington	.00	47
INDUSTRIAL	**2.28**	
Illinois	1.55	26
Michigan	4.28	2
New Jersey	2.13	10
New York	2.01	13
Ohio	1.95	14
Pennsylvania	1.76	19
All OTHER STATES	**1.68**	
Alabama	1.26	32
Alaska	9.92	1
Arkansas	1.37	30
Colorado	.69	45
Delaware	3.35	4
Florida	.73	44
Georgia	1.66	23
Hawaii	2.20	9
Idaho	1.25	34
Indiana	1.47	27
Iowa	1.41	28
Kansas	1.69	21
Kentucky	1.67	22
Louisiana	2.23	8
Minnesota	2.27	7
Mississippi	1.83	18
Missouri	.24	46

Table 7 (cont'd)
State and Local Corporate Tax Collections as a Percentage of Business-Related Income, FY91, by State

State	S & L Corporate Tax Collections as a Percentage of Business-Related Income	Rank
Montana	1.74	20
Nebraska	.93	43
Nevada	.00	47
New Mexico	.93	42
North Dakota	1.64	24
Oklahoma	1.10	35
Oregon	1.07	37
South Carolina	1.40	29
South Dakota	.96	40
Tennessee	1.85	17
Utah	1.61	25
Virginia	1.02	38
West Virginia	3.50	3
Wisconsin	2.12	11
Wyoming	.00	47

Source: U.S. Department of Commerce, Economics and Statistics Administration; U.S. Bureau of the Census, State Government Finances:1991; and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

world, not just in Massachusetts. Similarly, the Commonwealth's residents receive interest payments from corporations, governments, and other borrowers located in all parts of the globe.

3. *Business's Share*. Business's share is the percentage of total state and local taxes paid by businesses, as opposed to individuals.[7] At just under 21 percent, the share of Massachusetts taxes paid by businesses is extremely low. Nationwide, the Commonwealth ranked 48th out of 50 according to this statistic in 1990 (Table 8). Massachusetts also ranked very low in terms of business's share in other years for which this statistic has been computed.[8]

It is tempting to conclude from this statistic that Massachusetts' business tax climate is extremely attractive, and that business taxes could be raised without significantly diminishing the Commonwealth's tax competitiveness. Such a conclusion would be erroneous. Even if businesses paid 100 percent of a state's taxes, the state's overall business tax burden might be low if the state has a small public sector. Such a state can collect a high percentage of its taxes from business but still collect a relatively small percentage of business profits. For example, New Hampshire ranks 8th in business's share but 48th in state and local taxes as a percentage of personal income. New Hampshire's businesses pay a large share of a small overall tax bill.[9]

Table 8
Business's Share: State and Local Taxes with an Initial Impact on Business as a Percentage of Total State and Local Taxes, Fiscal Year 1990, by State

State	Ratio of Taxes on Business to Total Taxation	Rank
Alaska	78.77	1
Wyoming	68.34	2
Montana	51.51	3
Delaware	45.71	4
Louisiana	44.08	5
Texas	42.81	6
West Virginia	42.62	7
New Hampshire	37.32	8
Kansas	36.62	9
Florida	34.51	10
Alabama	33.80	11
New Mexico	32.97	12
North Dakota	32.44	13
Tennessee	32.43	14
Connecticut	32.19	15
Mississippi	32.15	16
Oklahoma	31.95	17
Kentucky	31.91	18
Arizona	31.81	19
Nevada	31.21	20
Washington	31.02	21
Pennsylvania	30.95	22
South Carolina	30.50	23
California	30.09	24
New Jersey	29.52	25
Missouri	29.42	26
Illinois	29.25	27
Virginia	29.11	28
Michigan	28.73	29
Oregon	28.71	30
New York	28.53	31
Ohio	28.44	32
Colorado	28.42	33
Utah	28.23	34
Vermont	26.84	35
North Carolina	26.57	36
Indiana	26.19	37
Georgia	25.45	38
Maryland	25.42	39
South Dakota	25.35	40
Arkansas	24.38	41
Minnesota	24.22	42
Hawaii	24.12	43
Idaho	24.08	44
Rhode Island	23.73	45
Maine	23.23	46
Nebraska	21.03	47
Massachusetts	**20.72**	**48**
Wisconsin	20.37	49
Iowa	19.31	50
United States	30.31	

Source: Calculations by the staff of the Massachusetts Special Commission on Business Tax Policy. See Appendix D for sources of underlying data and detailed description of methodology.

Why Is Business's Share So Low in Massachusetts?

Even if business's share is not a good indicator of tax competitiveness, why is it so low in Massachusetts? Understandably, many people have difficulty avoiding the seemingly obvious conclusion that businesses must be taxed lightly in the Commonwealth if its share of the total tax burden is so low.

Business's share is so low in Massachusetts because of the characteristics of the Commonwealth's economy, not because the Commonwealth's businesses are taxed lightly. Three characteristics are primarily responsible:

- Massachusetts' economy is **labor-intensive**, that is, Massachusetts' industries use a higher ratio of labor to capital than industries in most other states.
- Massachusetts has **one of the highest levels of per capita income** in the country.
- **Extractive industries play a very small role** in the state's economy.

1. *Business's share and labor intensity*. Labor is compensated primarily in the form of wages and salaries. Owners of capital are compensated for the use of their property in the form of profits. Consequently, wages and salaries are large relative to profits in a state with a labor-intensive economy. Furthermore, in such a state, the value of residential property is large relative to the value of nonresidential property, other things equal, because of the relatively small stock of plant and

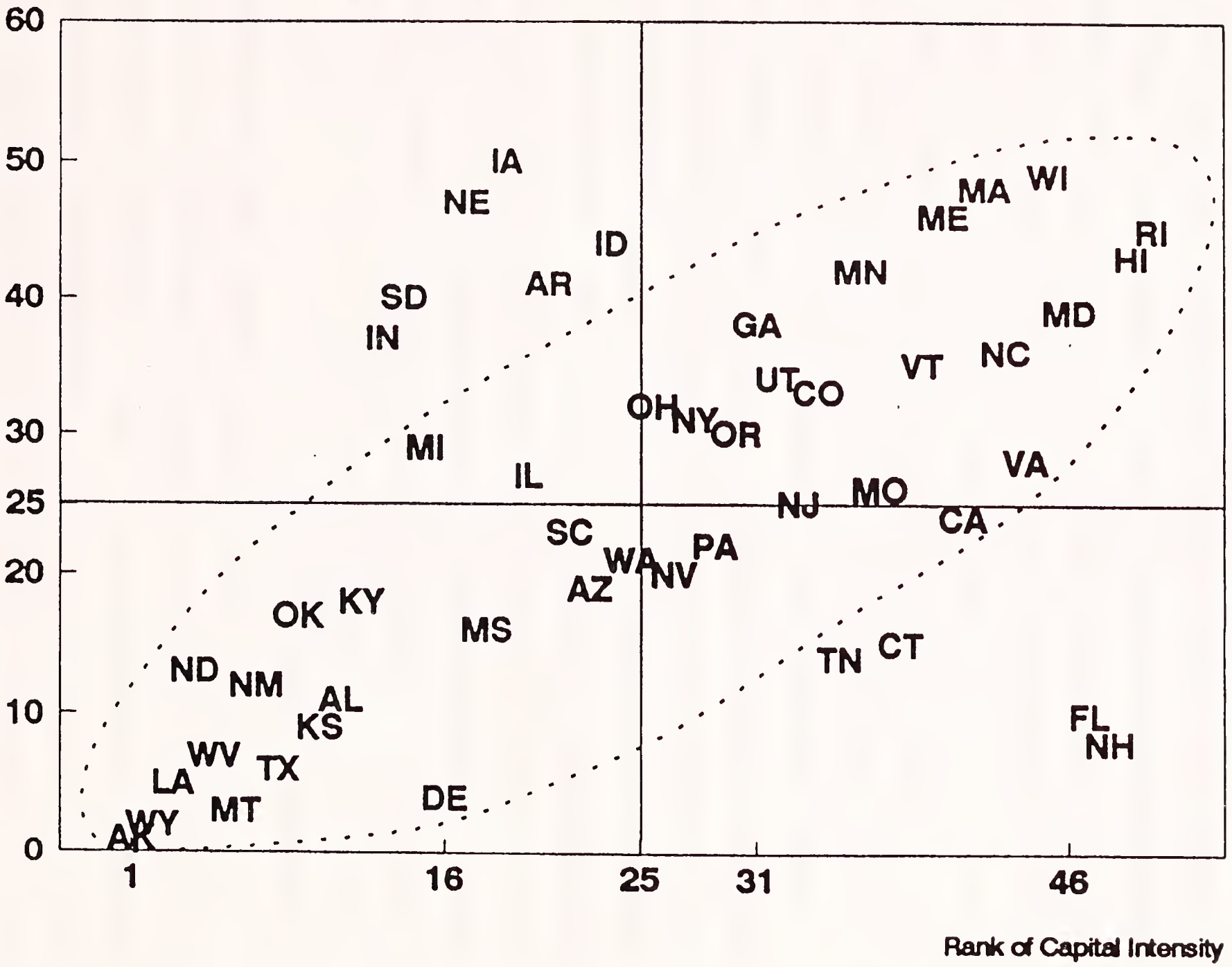
equipment. Taxes on profits and nonresidential property are the two largest business taxes. Taxes on personal income (the most important component of which is wages and salaries) and residential property are two of the largest taxes on individuals. Hence, labor-intensive states, such as Massachusetts, tend to have low business's share.[10] The negative relationship between labor-intensity and business's share is demonstrated in Chart 5 by the states falling within the dotted oval.

2. *Business's share and per capita income.* Per capita income is negatively correlated with business's share. States with high per capita income have unusually high personal income tax capacities, giving them a high income tax yield from any given tax structure. Massachusetts ranked 5th in the nation in per capita income in 1991 primarily because of its highly skilled workforce and its heavy concentration of wealth, which gives its residents a high average level of investment income.

3. *Business's share and extractive industries.* States rich in extractable natural resources can generate a large fraction of their revenue by levying severance taxes. A severance tax is a tax on the extraction of natural resources imposed at the time that the mineral, timber, or other natural product is removed, or "severed," from the earth. States endowed with abundant supplies of oil, gas, coal, and other minerals rely heavily on severance taxes to finance their public sector. Revenues from this source swell business's share, even though businesses not engaged in mineral extraction are taxed lightly.

Chart 5.

Fifty States Ranks of Capital Intensity and Business Share of State and Local Taxes, Including Severance Taxes, 1990



Source: Capital Stock data - Munnell, Alicia H. "How Does Public Infrastructure Affect Regional Economic Performance?" NE Economic Review, Sept./Oct. 1990, pp 11-32.; Employment data - Bureau of Economic Analysis; Business's Share data - See Appendix; Calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Massachusetts has virtually no capacity to impose severance taxes because it has practically no extractable natural resources (Appendix Table C-1).

4. *Business's share and agriculture.* Note that most of the states lying outside the dotted oval in the northwest quadrant of Chart 5 (high capital-intensity, low business's share) are farm states (Appendix Table C-2). Agriculture, at least in the United States, is a relatively capital-intensive industry. State and local governments tend to tax farmers lightly, largely because of the volatility of their income, the illiquidity of their assets, and their political clout. In order to lighten the tax burden on farms without discriminating against businesses in other industries, many farm states turn to personal income and sales taxes for a large proportion of their revenue. Furthermore, business's share is often underestimated in farm states because, according to the U.S. ACIR's methodology, personal income taxes paid on proprietorship and partnership income are considered to be taxes paid by individuals rather than by businesses. Proprietorships account for a larger fraction of income earned in agriculture than income earned in the U.S. economy as a whole.

5. *Business's share and competition within metropolitan regions.* The states lying outside of the dotted oval in the southeast quadrant of Chart 5 (labor-intensive, high business's share) are Connecticut, Florida, New Hampshire, and Tennessee. None of these states had a broad-based personal income tax in

1990. Until recently, Connecticut had a longstanding strategy of taxing personal income lightly in order to compete with high income-tax New York for both businesses and households within the New York City metropolitan area. New Hampshire's lack of either a broad-based income tax or a retail sales tax can be explained in part by a desire to compete with high-income tax Massachusetts for residents and businesses within the greater Boston metropolitan area. Florida has rejected a broad-based personal income tax in part to compete for retirees.

Summary of factors affecting business's share.

Labor intensity, per capita income, the importance of extractive industries, and the importance of agriculture explained almost 70 percent of the variation in business's share in FY90.[11] Massachusetts is a labor-intensive state largely devoid of mining whose residents enjoy one of the highest average incomes in the nation. These characteristics are responsible for the small proportion of taxes paid by business in the Commonwealth. The small share paid by business has little to do with how heavily or how fairly business is taxed.

IV. Two Especially Useful Indicators of Tax Competitiveness

Tax Burdens on Upper-Income Families

As pointed out in Section II, upper-income families are especially mobile and include in their ranks executives responsible for choosing the location of their company's facilities. In theory, therefore, interstate differences in tax

burdens on these families should affect the location of both households and businesses. A state can gain useful insights into an important aspect of its tax competitiveness by comparing the tax burden it imposes on upper-income households with those imposed by competitor states.

The most recent study making such comparisons was conducted by the Government of the District of Columbia (1992). Representative families of four at various income levels were assumed to reside in the District of Columbia and the largest city in each of the 50 states. The families' personal income, property, auto excise, and sales tax liabilities were computed at each location.

The study found that the income tax burdens in Boston imposed on families with annual income of $75,000 and $100,000 ranked 8th and 9th, respectively, among the 51 cities sampled. Among the cities located in economic competitor states, Boston compared favorably only with the average of those cities located in the industrial subcategory (Chart 6 and Table 9).

By contrast, the study found that at these two income levels the property tax burden in Boston was one of the lowest in the 51-city sample (Table 10). These results appear to be inconsistent with Census Bureau data that showed Massachusetts' total property tax burden was roughly at the national average in FY91 (Table 5). The discrepancy is attributable to the study's exclusive focus on tax burdens borne by households. Boston's tax

Chart 6
Estimated State and Local Income Tax Burden for a Family of Four, 1991

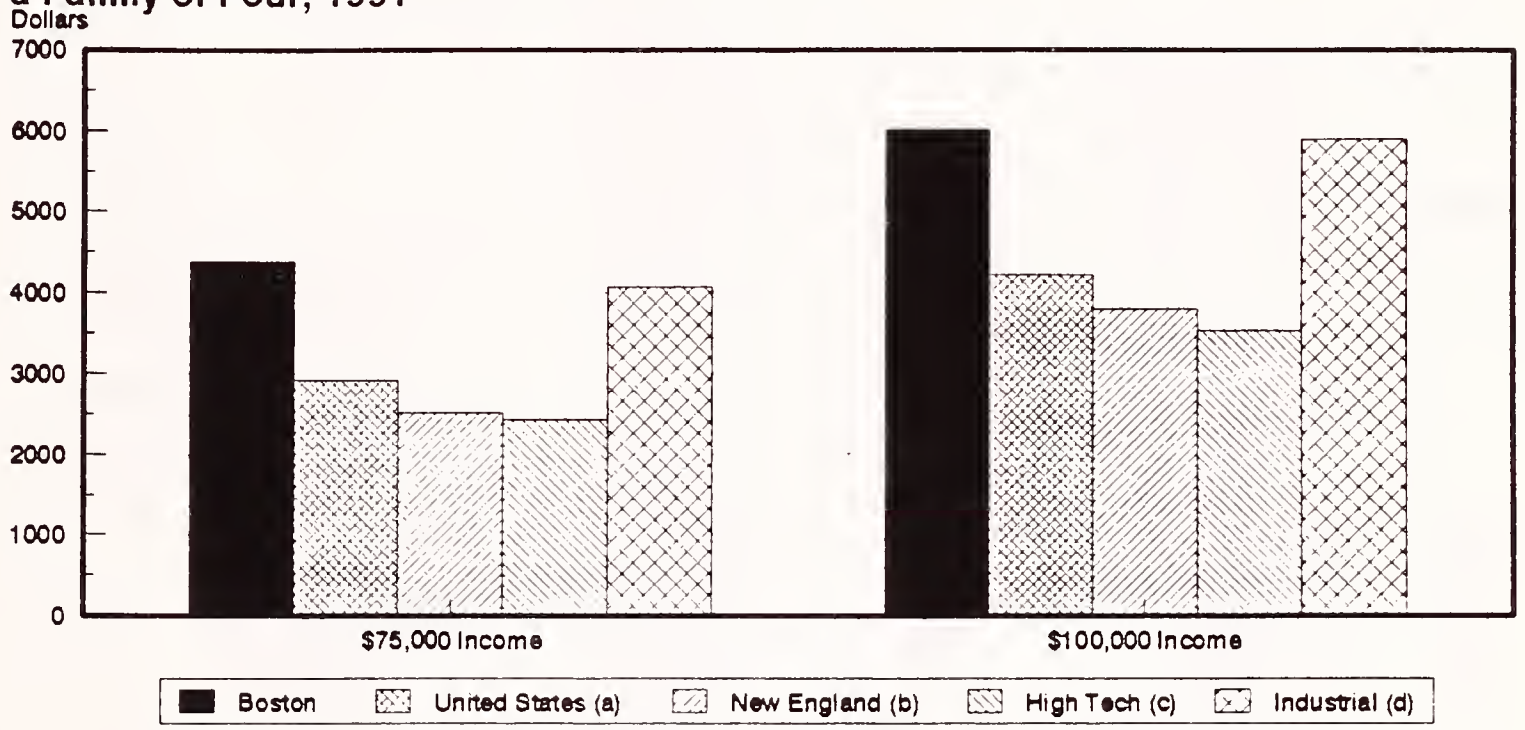
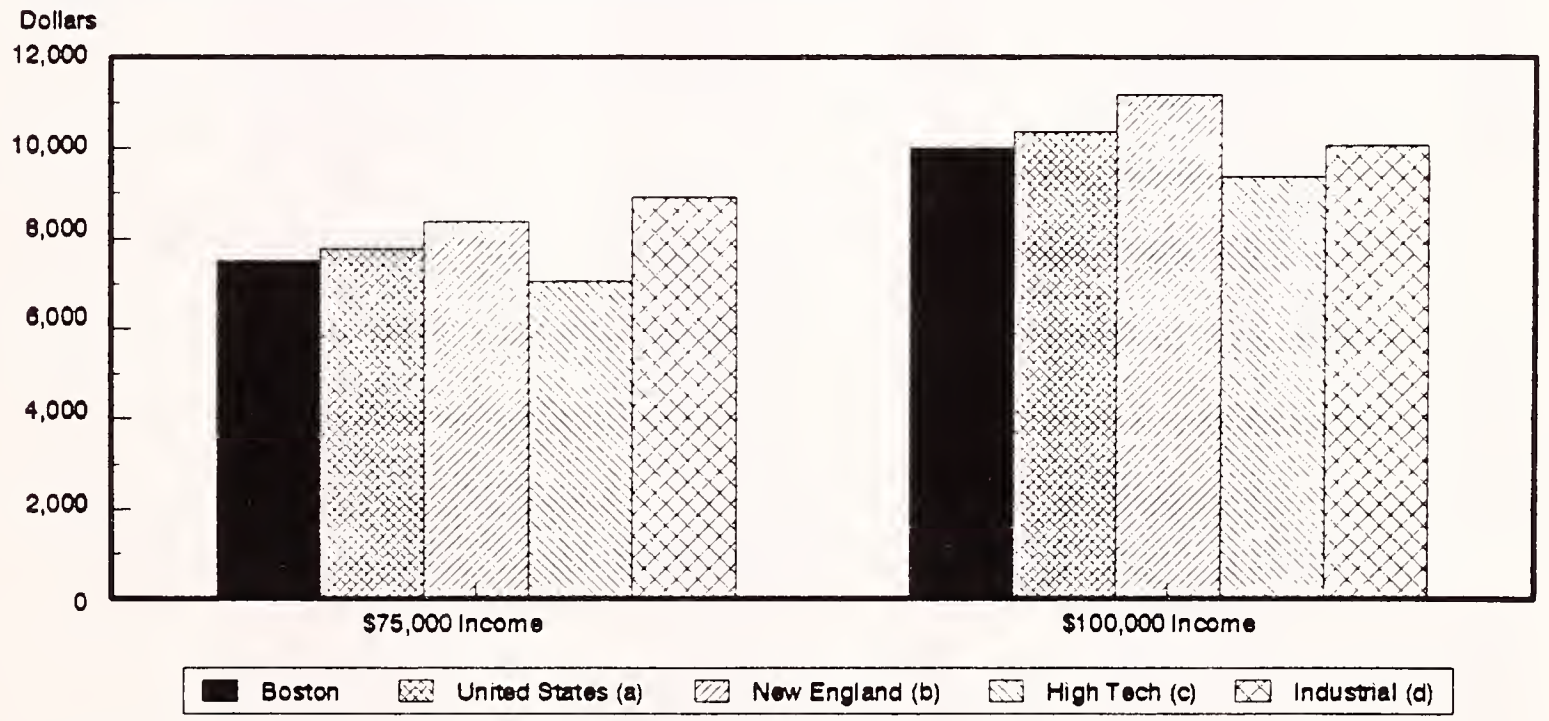


Chart 7
Estimated Combined Burden of Income, Property, Sales and Automobile* Taxes for a Family of Four, 1991



(a) Average of the District of Columbia and the largest city in each of the 50 states.
(b) Average of Bridgeport, CT; Portland, ME; Boston, MA Providence, RI; Manchester, NH; and Burlington, VT.
(c) Average of Phoenix, AZ; Los Angeles, CA; Baltimore, MD; Boston, MA; Charlotte, NC; Houston, TX; and Seattle, WA.
(d) Average of Chicago, IL; Boston, MA; Detroit, MI; Newark, NJ; New York, NY; Cleveland, OH; and Philadelphia, PA.

* Includes gasoline taxes, motor vehicle registration fees, motor vehicle excise taxes, and personal property taxes levied on automobiles.

Source: Tax Rates and Tax Burdens in the District of Columbia: A Nationwide Comparison. D.C. Department of Finance and Revenue, 1991.

Table 9
Estimated 1991 State and Local Income Tax for a Representative Family of Four with Annual Incomes of $75,000 and $100,000, by State

State	$75,000 S & L Income Tax	Rank	$100,000 S & L Income Tax	Rank
MASSACHUSETTS	**$4,395**	**8**	**$6,013**	**9**
UNITED STATES	**2,920**		**4,226**	
NEW ENGLAND	**2,147**		**3,364**	
Connecticut	1,265	42	1,975	42
Maine	3,684	16	5,634	13
New Hampshire	0	45	25	44
Rhode Island	2,689	32	228	31
Vermont	3,099	24	4,958	20
HIGH TECH	**2,111**		**3,117**	
Arizona	1,746	39	2,552	38
California	2,974	28	5,037	17
Maryland	4,180	10	5,799	12
North Caroline	3,763	14	5,313	15
Texas	0	43	0	45
Washington	0	43	0	45
INDUSTRIAL	**4,019**		**5,878**	
Illinois	1,877	37	2,551	39
Michigan	4,430	7	6,978	3
New Jersey	1,850	38	3,293	35
New York	6,564	1	9,296	1
Ohio	3,968	12	5,934	10
Pennsylvania	5,422	2	7,213	2
ALL OTHER STATES	**2,674**		**3,840**	
Alabama	2,183	35	2,935	37
Alaska	0	43	0	45
Arkansas	3,201	22	4,711	23
Colorado	2,644	33	3,694	33
Delaware	4,221	9	6,137	8
D.C.	4,687	5	6,761	5
Florida	0	43	0	45
Georgia	3,008	26	4,240	29

Table 9 (cont'd)
Estimated 1991 State and Local Income Tax for a Representative Family of Four with Annual Incomes of $75,000 and $100,000, by State

State	$75,000 S & L Income Tax	Rank	$100,000 S & L Income Tax	Rank
Hawaii	4,791	4	6,834	4
Idaho	4,027	11	5,818	11
Indiana	2,805	31	3,792	32
Iowa	3,112	3	4,443	27
Kansas	2,303	34	3,426	34
Kentucky	4,859	3	6,662	6
Louisiana	1,674	40	2,270	41
Minnesota	3,939	13	5,633	14
Mississippi	2,173	36	3,217	36
Missouri	3,337	20	4,547	24
Montana	3,016	25	4,536	25
Nebraska	2,861	29	4,369	28
Nevada	0	43	0	43
New Mexico	2,848	30	4,513	26
North Dakota	1,550	41	2,410	40
Oklahoma	3,367	19	4,830	22
Oregon	4,599	6	6,522	7
South Carolina	3,464	18	4,962	19
South Dakota	0	43	0	45
Tennessee	0	43	0	45
Utah	3,636	17	5,025	18
Virginia	2,977	27	4,235	30
West Virginia	3,230	21	4,855	21
Wisconsin	3,722	15	5,303	16
Wyoming	0	43	0	45
MEDIAN	3,008		4,513	

Source: District of Columbia Department of Finance and Revenue, Tax Rates and Tax Burdens in the District of Columbia: A Nationwide Comparison, 1992, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Table 10
Estimated 1991 State and Local Property Taxes for a Representative Family of Four With Annual Incomes of $75,000 and $100,000, by State

State	$75,000 S & L Property Tax	Rank	$100,000 S & L Property Tax	Rank
MASSACHUSETTS	**$1,178**	**50**	**1,578**	**48**
UNITED STATES	**2,802**		**3,578**	
NEW ENGLAND	**4,390**		**5,561**	
Connecticut	6,219	2	7,877	2
Maine	3,229	13	4,090	13
New Hampshire	4,673	6	5,919	6
Rhode Island	4,982	5	6,158	5
Vermont	2,969	16	3,760	17
HIGH TECH	**2,664**		**3,377**	
Arizona	2,937	17	3,720	18
California	2,271	31	2,895	32
Maryland	3,374	11	4,273	11
North Carolina	2,035	37	2,578	37
Texas	3,053	14	3,871	15
Washington	2,311	29	2,927	29
INDUSTRIAL	**3,497**		**4,455**	
Illinois	3,525	10	4,558	10
Michigan	4,053	7	5,134	7
New Jersey	6,045	3	7,713	3
New York	2,028	38	2,568	38
Ohio	2,489	26	3,153	6
Pennsylvania	2,844	19	3,603	20
ALL OTHER STATES	**2,438**		**3,120**	
Alabama	999	51	1,284	51
Alaska	3,783	9	4,792	9
Arkansas	1,574	42	1,993	42
Colorado	2,298	30	2,911	31
Delaware	1,317	47	1,668	47
D.C.	2,168	34	2,823	33
Florida	2,359	27	3,132	27
Georgia	3,046	15	3,862	16

Table 10 (cont'd)
Estimated 1991 State and Local Property Taxes for a Representative Family of Four With Annual Incomes of $75,000 and $100,000, by State

State	$75,000 S & L Property Tax	Rank	$100,000 S & L Property Tax	Rank
Hawaii	1,366	46	1,770	46
Idaho	2,603	24	3,562	22
Indiana	1,596	41	2,028	41
Iowa	2,725	23	3,504	24
Kansas	2,577	25	3,264	25
Kentucky	1,196	49	1,515	50
Louisiana	2,841	20	3,921	14
Minnesota	2,244	33	2,801	34
Mississippi	2,252	32	2,916	30
Missouri	1,469	44	1,860	44
Montana	2,813	21	3,563	21
Nebraska	2,917	18	3,695	19
Nevada	2,336	28	2,960	28
New Mexico	2,090	36	2,659	36
North Dakota	3,267	12	4,139	12
Oklahoma	1,503	43	1,930	43
Oregon	5,366	4	6,797	4
South Carolina	2,806	22	3,555	23
South Dakota	4,036	8	5,112	8
Tennessee	1,962	39	2,485	39
Utah	1,823	40	2,309	40
Virginia	2,163	35	2,740	35
West Virginia	1,229	48	1,556	49
Wisconsin	6,317	1	8,041	1
Wyoming	1,427	45	1,808	45
Median	2,489		3,153	

Source: District of Columbia Department of Finance and Revenue, Tax Rates and Tax Burdens in the District of Columbia: A Nationwide Comparison, 1992, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

rate on industrial and commercial property is considerably higher than that on residential property.[12]

The combined property and income tax burdens in Boston on both the $75,000-a-year and $100,000-a-year families ranked 23rd and 24th, respectively among the 51 cities sampled (Table 11). Boston's competitive standing according to these indicators improves even further when automobile taxes and sales taxes are taken into account (Table 12 and Chart 7), because Massachusetts has one of the lowest sales tax burdens in the country.

Note that, according to the study, Boston imposes a lower aggregate state and local burden on its upper-income households than the largest city of any of its neighboring states except New Hampshire. New Hampshire has neither a broad-based personal income tax nor a retail sales tax. Massachusetts would have to alter its tax system drastically to make its average tax burden on upper-income households (or on households in other income classes, for that matter) comparable to New Hampshire's.[13]

The Representative Firm Approach to Evaluating Tax Competitiveness

Seven years ago, the Massachusetts Special Commission on Tax Reform decided that, in order to evaluate Massachusetts' tax competitiveness accurately, it had to view the Commonwealth through the eyes of a rational, profit-maximizing business executive in the process of choosing a site for a new facility. How would such an executive evaluate the "tax climate" at alternative locations? The Tax Reform Commission felt that, if

Table 11
Estimated 1991 State and Local Income and Property Taxes Combined for a Representative Family of Four with Annual Incomes of $75,000 and $100,000, by State

State	$75,000 S & L Income & Property Taxes	Rank	$100,000 S & L Income & Property Taxes	Rank
MASSACHUSETTS	**$5,573**	**24**	**$7,591**	**26**
UNITED STATES	**6,015**		**8,249**	
NEW ENGLAND	**6,538**		**8,925**	
Connecticut	7,484	9	9,852	9
Maine	6,913	10	9,724	10
New Hampshire	4,673	38	5,944	41
Rhode Island	7,551	8	10,386	7
Vermont	6,068	17	8,718	14
HIGH TECH	**4,774**		**6,494**	
Arizona	4,683	37	6,272	38
California	5,245	28	7,932	23
Maryland	7,554	7	10,072	8
North Carolina	5,798	22	7,891	24
Texas	3,053	46	3,871	46
Washington	2,311	49	2,927	49
INDUSTRIAL	**7,516**		**10,332**	
Illinois	5,402	27	7,109	29
Michigan	8,483	4	12,112	3
New Jersey	7,895	6	11,006	5
New York	8,592	3	11,864	4
Ohio	6,457	13	9,087	13
Pennsylvania	8,266	5	10,816	6
ALL OTHER STATES				
Alabama	3,182	45	4,219	45
Alaska	3,783	44	4,792	44
Arkansas	4,775	36	6,704	32
Colorado	4,942	30	6,605	34
Delaware	5,538	25	7,805	25
D.C.	6,855	11	9,584	11
Florida	2,359	47	3,132	47
Georgia	6,054	19	8,102	19

Table 11 (cont'd)
Estimated 1991 State and Local Income and Property Taxes Combined for a Representative Family of Four with Annual Incomes of $75,000 and $100,000, by Selected Groups of States

State	$75,000 S & L Income & Property Taxes	Rank	$100,000 S & L Income & Property Taxes	Rank
Hawaii	6,157	16	8,604	15
Idaho	6,630	12	9,380	12
Indiana	4,401	42	5,820	42
Iowa	5,837	20	7,947	22
Kansas	4,880	32	6,690	33
Kentucky	6,055	18	8,177	18
Louisiana	4,515	39	6,191	39
Minnesota	6,183	15	8,434	17
Mississippi	4,425	41	6,133	40
Missouri	4,806	35	8,099	37
Montana	5,829	21	6,407	20
Nebraska	5,778	23	8,064	21
Nevada	2,336	48	2,960	48
New Mexico	4,938	31	7,172	28
North Dakota	4,817	34	6,549	35
Oklahoma	4,870	33	6,760	31
Oregon	9,965	2	13,319	2
South Carolina	6,270	14	8,517	16
South Dakota	4,036	43	5,112	43
Tennessee	1,962	50	2,515	50
Utah	5,459	26	7,334	27
Virginia	5,140	29	6,975	30
West Virginia	4,459	40	6,411	36
Wisconsin	10,089	1	13,344	1
Wyoming	1,427	51	1,808	51
MEDIAN	5,459		7,591	

Source: District of Columbia Department of Finance and Revenue, Tax Rates and Tax Burdens in the District of Columbia: A Nationwide Comparison, 1992, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Table 12
Estimated 1991 Burden of State and Local Income, Property, and General Sales Taxes for a Representative Family of Four with Annual Incomes of $75,000 and $100,000, by State

State	$75,000 S & L Tax Burden	Rank	$100,000 S & L Tax Burden	Rank
MASSACHUSETTS	**$7,491**	**26**	**$9,994**	**26**
UNITED STATES	**7,760**		**10,363**	
NEW ENGLAND	**8,557**		**11,426**	
Connecticut	10,485	3	13,666	4
Maine	9,691	7	13,119	7
New Hampshire	5,557	44	6,936	44
Rhode Island	9,723	6	13,120	6
Vermont	7,328	30	10,289	23
HIGH TECH	**6,975**		**9,269**	
Arizona	7,550	24	9,829	30
California	7,621	23	10,992	18
Maryland	8,933	11	11,792	11
North Carolina	7,793	20	10,394	21
Texas	5,005	45	6,324	45
Washington	4,946	46	6,284	46
INDUSTRIAL	**9,165**		**12,418**	
Illinois	7,448	27	9,674	31
Michigan	9,763	5	13,684	3
New Jersey	9,355	9	12,860	8
New York	10,921	2	14,895	2
Ohio	7,993	18	11,002	17
Pennsylvania	9,511	8	12,393	9
ALL OTHER STATES	**7,080**		**9,432**	
Alabama	5,588	43	7,339	43
Alaska	3,959	50	4,960	50
Arkansas	6,476	40	8,852	39
Colorado	7,698	22	10,032	25
Delaware	5,831	42	8,078	42
D.C.	8,521	13	11,670	12
Florida	4,007	49	5,218	49
Georgia	8,571	12	11,398	14
Hawaii	7,548	25	10,240	24

Table 12 (cont'd)
Estimated 1991 Burden of State and Local Income, Property, Sales and Automobile Taxes for a Representative Family of Four with Annual Incomes of $75,000 and $100,000, by State

State	$75,000 S & L Tax Burden	Rank	$100,000 S & L Tax Burden	Rank
Idaho	8,286	16	11,444	13
Indiana	6,529	39	8,386	41
Iowa	7,416	29	9,933	27
Kansas	8,102	17	10,621	19
Kentucky	7,874	19	10,506	20
Louisiana	7,249	32	9,869	28
Minnesota	8,308	15	11,054	16
Mississippi	6,686	38	9,027	38
Missouri	6,938	34	9,176	36
Montana	6,731	36	9,180	35
Nebraska	8,360	14	11,325	15
Nevada	4,914	47	6,125	47
New Mexico	6,692	37	9,399	33
North Dakota	6,353	41	8,490	40
Oklahoma	7,060	33	9,510	32
Oregon	10,261	4	13,594	5
South Carolina	8,961	10	11,983	10
South Dakota	7,296	31	9,112	37
Tennessee	4,286	48	5,447	48
Utah	7,784	21	10,316	22
Virginia	7,421	28	9,866	29
West Virginia	6,775	35	9,382	34
Wisconsin	11,630	1	15,325	1
Wyoming	3,545	51	4,432	51
MEDIAN	7,491		9,994	

Source: Distict of Columbia Department of Finance and Revenue, Tax Rates and Tax Burdens in the District of Columbia: A Nationwide Comparison, 1992, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

it could capture this "conceptual lense" in a model, it could provide the Commonwealth with a new, powerful indicator of tax competitiveness whose validity was firmly rooted in economic theory.

The Tax Reform Commission hired Dr. Stephen H. Brooks to develop such a model. The indicator of tax competitiveness provided by the model was very similar to that developed by Leslie Papke (1987, 1991). As discussed in Section I, this indicator reveals the degree to which a state's business tax structure depresses the after-tax rate of return on business fixed investment. In his 1986 study, Brooks found that, according to this indicator, Massachusetts held its own vis a vis competitor states.[14]

The Papke-Brooks approach is even more valid today than it was seven years ago. As noted in Section I, Papke has since demonstrated that this measure of business tax burden is negatively correlated with capital investment and business starts. Brooks has improved his measure in the process of consulting for other state and local governmental bodies. Consequently, the Massachusetts Special Commission on Business Tax Policy hired Dr. Brooks to update his analysis. His methodology and principal results, presented in detail in a separate volume, are summarized in this section.

How Brooks Estimated a State's Business Tax Burden

Brooks "located" hypothetical firms representative of selected manufacturing industries at five sites within

Massachusetts and ten within competitor states. He assumed that gross pre-tax rates of return and costs other than taxes are the same in each city. He then computed annual total local, state, and federal tax liabilities and the net after-tax cash flow of each firm 60 years into the future, a typical useful lifetime for a manufacturing facility.

Brooks then assumed that each firm builds a new facility at each of the 15 sites, including the firm's current site. This expansion requires the firm to invest in new equipment, structures, inventories, and financial assets and to hire more workers. As a result of the expansion, each firm makes larger profits and pays more taxes. By comparing after-tax post-expansion cash flows with after-tax pre-expansion cash flows, one can calculate the long-run rate of return of the new facility at each site for each representative firm. By assumption, differences across sites in rates of return reflect only differences in state and local tax burdens.

Brooks' method focuses on all business taxes and how they affect a firm's return on a project over the project's entire lifetime. Yet, his approach does not require the measurement of each state's corporate profits or taxes paid by business, which defy accurate measurement. His approach also captures the fact that businesses are interested not in the burden of state and local taxes in isolation but in how taxes at all levels of government interact to affect their "bottom line."

Brooks' Results

Brooks found that the average ROA (rate of return on assets) at the Massachusetts sites generally ranks high in each industry (Table 13). In the manufacture of fabricated metals, computers, and electronics, seven of the non-Massachusetts' sites have a lower ROA (i.e., a higher tax burden) and only three have a higher ROA (i.e., a lower tax burden). In all four of these industries, at least four of the five Massachusetts sites had a higher after-tax rate of return than Nashua, New Hampshire, the site included in the sample from the Granite State. Belying its image as a low-tax state, New Hampshire actually taxes its businesses more heavily than the Commonwealth, mostly because of its high property taxes.

Three factors are primarily responsible for the competitiveness of Massachusetts' business tax structure in the Brooks simulations. First, the Commonwealth offers relatively attractive tax subsidies for investment in plant and equipment, such as its 3 percent investment tax credit. Second, its average property tax burden on commercial and industrial property is relatively low. Third, its statutory corporate tax rate, although high relative to other states as a whole, is not that far out of line with that of the competitor states used in the simulations.

The differences in ROAs across sites shown in Table 13 are generally small. Most ROAs cluster within 0.5 to 0.6 of a percentage point, depending on the industry analyzed.[15] This

Table 13
Simulated After-Tax Rates of Return of Representative New Plants at Selected Locations, for Selected Industries, 1993
(percent)

Expansion Site	Apparel	Fabricated Metals	Computers	Electronics	Instruments
Bedford, MA	16.4	17.5	17.7	17.6	17.2
Chelmsford, MA	16.6	17.7	17.9	17.7	17.4
Foxboro, MA	16.5	17.6	17.8	17.7	17.4
Greenfield, MA	16.5	17.6	17.8	17.6	17.3
Waltham, MA	16.3	17.4	17.6	17.5	17.1
Average of MA Sites	**16.5**	**17.6**	**17.8**	**17.6**	**17.3**
Los Angeles, CA	16.5	17.3	17.4	17.3	17.1
Stamford, CT	16.4	17.2	17.3	17.2	16.9
Rockford, IL	16.5	17.5	17.6	17.6	17.2
Hagerstown, MD	16.9	18.0	18.1	17.9	17.7
Nashua, NH	16.7	17.4	17.5	17.4	17.1
Poughkeepsie, NY	16.7	17.9	18.0	17.8	17.5
Greenville, NC	16.4	17.2	17.2	17.2	16.9
Lancaster, PA	15.8	16.7	16.8	16.8	16.5
Memphis, TN	16.7	17.4	17.6	17.5	17.2
El Paso, TX	17.5	18.4	18.5	18.4	18.0

Source: S.H. Brooks Co., Inc., Report to the Massachusetts Special Commission on Business Tax Policy, March 30, 1993.

lack of variation suggests a possible additional reason why economists get mixed results when investigating whether state and local taxes "matter"--the interstate variation in those state and local tax burdens that "matter the most" is so small that its impact is difficult to detect.

V. THE ROLE OF STATE AND LOCAL TAXES IN BUSINESS LOCATIONAL CHOICE ACCORDING TO CONSULTING FIRMS THAT ADVISE BUSINESSES ON WHERE TO LOCATE NEW FACILITIES

The staff of the Massachusetts Special Commission on Business Tax Policy conducted informal, open-ended interviews with professionals at several firms that advise businesses on where to locate new facilities. In general, the firms requested confidentiality. One firm, Grant-Thornton, Inc., annually publishes its ranking of states according to business climate. In 1989, the last year for which the firm compiled its rankings, Grant-Thornton ranked Massachusetts' overall business climate 25th out of the 50 states.

In general, the consultants do not tell their clients what factors they should take into account in choosing a location. Rather, they help each client to decide where to locate a facility, given what factors the client thinks are important. The characteristics of a good location vary considerably from client to client, depending on the goods that the client produces or distributes and/or the services it provides. The consultant does not presume to know its client's business better than the client.

Largely as a result, the factors that the consultants identified as the most important locational determinants were similar to those identified by business managers in survey research. The most important determinants were labor costs, education levels, and the availability of appropriately skilled labor. One consultant said that, for this reason, many of his clients put heavy emphasis on the quality of public education.

None of the consultants identified state and local tax differentials as being an important factor in locational choice. One stated bluntly that state and local taxes "don't amount to a hill of beans. If they reach 2 percent of total costs, that's a lot." Another said that state and local taxes enter the locational decision "after the fact."

Two firms have quantified the importance of taxes in the hierarchy of locational determinants. One firm divided locational factors into four groups: very important, important, somewhat important, and not important. State and local property taxes, sales taxes, and corporate income taxes were classified as somewhat important. No other tax factors made the list.

Grant-Thornton develops its index by presenting a list of 16 potential locational factors to a sample of over 90,000 businesses and asking them to weight each factor according to its importance as a determinant of location. The two tax factors that it includes in its list are tax effort and the change in tax effort over the last five years. A rising tax effort is assumed to be an indication of fiscal instability, and therefore an

unfavorable factor. In 1989, the latest year for which Grant-Thornton developed its index, tax effort was ranked 9th; change in tax effort was ranked 13th. The weights attached to each factor, ranked in order of descending importance, are presented in Table 14.

While the consultants generally did not rank taxes as an important consideration, they all cautioned that taxes do make a difference for some firms in some circumstances. For example, capital-intensive firms are often sensitive to interstate differences in the tax treatment of personal business property. Inventory-intensive firms are often sensitive to the property tax treatment of inventories. The consultants also pointed out that certain tax characteristics are perceived as a symbol of a state's general attitude toward business. Aggressiveness in tax enforcement and the use of combined unitary accounting were cited by one consultant as "red flags" to many business managers.

On the other hand, the consultants expressed concern about the stability of a state's revenues and its general fiscal condition. One tax characteristic generally abhorred by business is frequent changes in tax laws in general and the level of taxation in particular. Other things equal, businesses shy away from locating in a state where they think, after they have decided to move there, the tax laws will probably change, catching them off-guard and upsetting their plans.

Factor Weighting and Massachusetts' Comparative Rankings, Grant Thornton Manufacturing Climate Study, 1989*

Rank	Factor	Factor Weight	Massachusetts' National Rank	Massachusetts' Regional Rank
1	Average Hourly Wage (a)	9.14%	35	5
2	Education (b)**	8.33%	23	5
3	Workers' Compensation Insurance Levels (c)**	7.19%	44	4
4	Statutory Average Workers' Compensation Cost per Case (d)**	7.03%	48	5
5	Percentage of Manufacturing Workers Unionized (e)	6.61%	32	6
6	Expenditure Growth vs. Personal Income Growth over Five Years (f)**	6.24%	19	4
7	Value Added (g)	6.10%	12	2
8	Fuel and Electric Energy Costs (h)	5.97%	46	3
9	Tax Effort (i)**	5.91%	24	3
10	Change in Average Hourly Wage over Five Years (j)	5.91%	48	5
11	Unemployment Compensation Trust Fund Net Worth (k)**	5.82%	21	4
12	Average Unemployment Compensation Benefits (l)**	5.76%	42	5
13	Change in Tax Effort over Five Years (m)**	5.58%	3	2
14	Change in Unionization over Five Years (n)	5.06%	49	6
15	Debt Growth vs. Personal Income Growth over Five Years (o)**	4.98%	16	3
16	Manhours Lost (p)	4.37%	1 =	1 =

Notes:
The higher the ranking the more competitive the state.

a. Annual average hourly manufacturing wage.
(Source: U.S. Department of Labor, Bureau of Labor Statistics, pre-published data for Employment and Earnings, Washington, D.C., April 1990.)

b. Index comprises: average salary of teachers as ratio of average pay of all workers; student-teacher ratio (k-12); high school graduation rate; state expenditure per student for public education (k-12); and per capita higher education expenditures as a percentage of per capita income. Measures the availability and quality of education within a state.
(Source: Special study conducted by Grant Thornton, Chicago, Ill., April 1990.)

c. Weighted average workers' compensation insurance level per $100 of payroll for manufacturing classifications. Because workers' compensation premiums differ among industries, a national distribution of payroll dollars for 63 manufacturing classifications is used to weight the payroll rates for various manufacturing industries.
(Source: Special study of 44 states conducted by Actuarial & Technical Solutions Inc., Patchogue, N.Y., February, 1990.)

d. Statutory average indemnity cost per case for all disability types and fatalities under workers' compensation insurances. Four types of claims are considered: death, permanent total disability, permanent partial disability, and temporary total disability.
(Source: Special Study conducted by Actuarial & Technical Solutions, Patchogue, N.Y., February, 1990.)

e. Unionized manufacturing employment as a percentage of total manufacturing employment.
(Source: Special study conducted by Leo Troy, Ph.D., Professor of Economics, Rutgers University, March 1990.)

f. State and local government general expenditure over five years vs. personal income growth over five years. Indicates how financially capable the state's taxpayers are to pay for increased expenditures if they exist.
(Sources: U.S. Department of Commerce, Bureau of Census, Government Finances in 1987-1988 (Series GF-88-5), Washington, D.C., January 1990. U.S. Department of Commerce, Bureau of Census, Governmental Finances in 1982-83 (Series GF83 No.5), Washington, D.C., October 1984. U.S. Department of Commerce, Bureau of Economic Analysis, Personal Income for States and Regions (Table SA1), Washington, D.C., August 1989.)

g. Value added by manufacturing process per dollar of production payroll. Measures the productivity of a state's manufacturing process, based both on the productivity of the state's workers as well as the technology they use. The factor measures how much output a manufacturer can expect for every $1 in payroll.
(Source: U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufacturers, MC87-SUM-1(P), Washington, D.C., September 1989.)

h. Fuel and electric energy costs per million BTUs for the industrial sector.
(Source: U.S. Department of Energy, Energy Information Administration, State Energy Price and Expenditure Report 1987, Washington, D.C., September 1989.)

i. State and local government tax effort and relationship to tax capacity. Measures how much a state uses its capacity to tax compared to other states.
(Source: Advisory Commission on Intergovernmental Relations (ACIR), pre-published data for 1988 State Fiscal Capacity and Effort, Washington, D.C., June 1990.)

j. Percentage change over five years in annual average hourly manufacturing wage.
(Source: U.S. Department of Labor, Bureau of Labor Statistics, pre-published data for Employment and Earnings, Washington, D.C., April 1990. U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, Washington, D.C., May 1986. U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, Washington, D.C., May 1985.)

k. Net worth of state unemployment compensation trust fund per covered worker. Measures the strength of the state's unemployment trust fund; states with higher assets per worker are stronger. States with strong funds will be less likely to raise unemployment taxes.
(Source: U.S. Department of Labor, Employment and Training Administration, Unemployment Insurance Financial Data, ET Handbook 394, 1988.)

l. Average unemployment compensation benefits paid per covered worker per year.
(Source: U.S. Department of Labor, Employment and Training Administration, Unemployment Insurance Financial Data, ET Handbook 394, 1988.)

m. Percentage change in state and local tax effort and relationship to tax capacity over five years.
(Sources: Advisory Commission on Intergovernmental Relations (ACIR), pre-published data for 1988 State Fiscal Capacity and Effort, Washington, D.C., June 1990. Advisory Commission on Intergovernmental Relations (ACIR), 1983 Tax Capacity of the States (M-148), Washington, D.C., April 1986.)

n. Percentage change over five years in the unionized manufacturing work force.
(Source: Special study conducted by Leo Troy, Ph.D., Professor of Economics, Rutgers University, March 1990.)

o. State and local government debt increases over five years vs. personal income growth over five years. Measures a state's fiscal health; indicates if a state may be required to raise taxes in the future to pay debt service.
(Sources: U.S. Department of Commerce, Bureau of Census, Government Finances in 1987-1988 (Series GF-88-5), Washington, D.C., January 1990. U.S. Department of Commerce, Bureau of Census, Governmental Finances in 1982-83 (Series GF83 No.5), Washington, D.C., October 1984. U.S. Department of Commerce, Bureau of Economic Analysis, Personal Income for States and Regions (Table SA1), Washington, D.C., August 1989.)

p. Average percentage of manufacturing working time lost due to work stoppages over two years involving 1,000 or more workers.
(Source: Special study conducted by Leo Troy, Ph.D., Professor of Economics, Rutgers University, March 1990. Data were not available for work stoppages pertaining to less than 1,000 affected workers.)

*The weighting process involves three steps. First, each organization assigned a percentage to each of the four general categories (totaling 100 percent), based on its assessment of the relative importance of that category to the state's general manufacturing climate. The average percentage is calculated for each category and are as follows:
A. State and Local Government Fiscal Policies (4 factors in category), 22.71%
B. State Regulated Employment Costs (4 factors in category), 25.80%
C. Labor Costs (4 factors in category), 26.72%
D. Productivity of Resources (4 factors in category), 24.77%
Second, the organizations assigned a percentage to each factor within a category (totaling 100 percent). Finally, an overall weight for each factor was computed by multiplying the percentage assigned to each factor by the percentage assigned to its category and averaging the results.
**Denotes that the factor is judged to be controlled or strongly influenced by state or local governments.
=Tied in rank with other states.

Source: Grant Thornton, Eleventh Annual Grant Thornton Manufacturing Climate Study (Chicago: Grant Thornton, August 1990).

VI. Conclusion

Overall, Massachusetts' tax structure is neither an asset nor a liability in interstate economic competition. The Commonwealth's tax system is average according to those indicators of competitiveness that matter most according to theory and empirical evidence. "Taxachusetts" is a vestigial nickname that does the Commonwealth an injustice. Although we are not a "low-tax state," we are not a "high-tax state" either. In addition, it is not clear that interstate differences in state and local tax characteristics exert a material effect on most business location decisions. Some recent studies have found that they do exert such an effect. Economists are in the process of validating these studies and attempting to replicate their results. The Commonwealth should monitor the progress of this research. If subsequent analysis detects a larger tax effect, and Massachusetts' taxes stray "out of line" according to relevant indicators, then the Commonwealth should consider tax reforms to restore its overall competitive position. Meanwhile, it should focus on features of its tax laws that may damage the competitiveness of certain industries. It should also look for modifications to its tax laws that are clearly pro-competitive but detract little from other tax policy goals. On the whole, however, the Commonwealth's tax structure is presently "holding its own."

ENDNOTES

[1]For example, McGuire and Wasylenko (1985) analyzed determinants of employment growth for 48 states between 1973 and 1980. They found positive, statistically significant relationships between the following tax variables and employment growth variables:

Tax Variable	Employment Growth Variable
Change in relative tax effort	Total employment Manufacturing employment Services employment
Effective personal income tax rate	Wholesale trade employment Retail trade employment Finance employment
Sales tax	Wholesale Trade

Wasylenko and Carroll (1991, 1993) attempted to replicate McGuire and Wasylenko (1985) examining comparable data from 1981 through 1985. They found all of the above correlations to be statistically insignificant over the later time period, except for change in relative tax effort and manufacturing employment. Taxes did not affect total employment growth in the updated version.

The inability of Wasylenko and Carroll to replicate McGuire and Wasylenko's results led Wasylenko and Carroll to attempt to replicate Helms' (1985) cross-section-time-series study done for 1965-1979, which, according to Wasylenko, "yields the most consistent evidence to date that taxes affect economic growth (Wayslenko 1992)." Wasylenko and Carroll attempted to replicate Helms' results for 1967 through 1988. Wasylenko (1992) reported the following results of this attempt:

> "We found that in most industry divisions the tax variables switched from being statistically significant in the 1960's and 1970's to being statistically insignificant in the 1980's. In particular, the significance of the tax variable coefficients for manufacturing changed to insignificant between 1983 and 1984, so that studies examining the pre-1984 period cannot be used to discuss the tax effects in the recent period (Wasylenko 1992)."

[2]Commonwealth of Massachusetts, S.1500, February 4, 1993.

[3]For example, see Munnell (1990), Helms (1985), Wasylenko and McGuire (1985), and Plaut and Pluta (1983).

[4]See U.S. Advisory Commission on Intergovernmental Relations (several years) for evidence that these two taxes are especially unpopular.

[5]These 17 states, listed in Table 1, were first identified as the Commonwealth's principal economic competitors by the Massachusetts High Technology Council. The Council refers to them as the "Social Contract" states because it promised to create a certain number of jobs if the Commonwealth brought its revenue burden into line with the average burden of these states.

As shown in the table, the Council further divided the 17 states into three subgroups: the New England states, the high technology states, and the industrial states. Other New England states pose a competitive threat to Massachusetts because they are so close to the Commonwealth geographically. Massachusetts companies dissatisfied with the Commonwealth's business tax climate can expand into another state in the region without straying too far from their existing facilities. The High Technology states rank among Massachusetts' principal economic competitors because they have skilled labor, good universities, venture capital, and research facilities that high-tech companies find attractive. As a result, they produce many of the same high-tech products that Massachusetts does, such as computers and computer software, electrical components, telecommunications equipment and control instruments. The Industrial states compete with Massachusetts in producing many of the traditional industrial products manufactured in the Commonwealth, such as machine tools, fabricated metal products, transportation equipment, and clothing.

[6]Furthermore, property tax burden fails to take into account the capitalization of property tax differentials. Businesses evaluating alternative locations take into account the price of real estate. Sellers of property subject to relatively high taxes must lower their prices to compensate prospective buyers. The lower cost of property can neutralize the higher tax burden, narrowing differences in attractiveness across sites.

[7]The methodology for estimating business's share was developed in 1981 by the U.S. Advisory Commission on Intergovernmental Relations (U.S. ACIR 1981). The staff of the Massachusetts Special Commission on Business Tax policy has used the U.S. ACIR methodology to estimate business's share by state for FY90. A detailed description of methodology, sources, and underlying data is provided in Appendix D.

[8]See, for example, U.S. ACIR (1979), Wheaton (1983), Reschovsky, et. al. (1983), and Tannenwald (1987).

[9]Furthermore, methods for allocating property tax and sales tax collections into their residential and nonresidential component are extremely arbitrary. The Commission, like the U.S. ACIR, had no choice but to assume that the ratio of business property taxes to total property taxes in each state is the same as the ratio of the value of nonresidential property to total property (See Appendix D). Consequently, the methodology is incapable of taking into account differences among states in the degree to which they discriminate between residential and nonresidential property in terms of either assessment ratios or statutory rates. As for sales taxes, there are no state-by-state data on the allocation of sales tax revenues between those collected on goods and services purchased by businesses and those paid by individuals. The Commission, like the U.S. ACIR, was forced to assume arbitrarily that the percentage of sales tax revenues paid by businesses is uniform across states.

[10]As an illustration of the point, consider two fictitious corporations, Acme Oil Refining and Beta Software:

Acme Oil Refining Company		Beta Software Company
$110,000,000	Total Revenues	$110,000,000
$100,000,000	Total Costs	100,000,000
90,000,000	Maintenance and Expansion of Plant and Equipment	40,000,000
10,000,000	Wages and Salaries	60,000,000
10,000,000	Profits (Total Revenues-Total Costs)	10,000,000
10,000,000/10,000,000 = 1.00	Profits/Wages and Salaries	10,000,000/60,000,000 = 0.16

Oil refining is extremely capital intensive. The oil refinery's total costs are $100 million, $90 million of which is for the maintenance and expansion of plant and equipment, $10 million of which is for employees' wages and salaries. The total costs of the software company are also $100 million, $40 million of which is for the maintenance and expansion of plant and equipment, and $60 million of which is for wages and salaries. Both companies earned $110 million in gross revenues, leaving profits of $10 million. The oil refinery's ratio of profits to wages was $10

million/$10 million, or 1.00. The software company's ratio of profits to wages was $10 million/$60 million, or 0.16.

Now, consider two states with identical personal income and corporate profits taxes but no other state or local taxes. One's economy consists of nothing but oil refining companies; the other's economy consists of nothing but software companies. The oil refining state will have a much higher business's share than the software state because the ratio of corporate profits to personal income will be much higher.

[11]The regression equation demonstrating the explanatory power of these variables is:

$$\underset{}{BUSSHARE} = \underset{(3.67)***}{.0036(K/L)} - \underset{(-2.13)**}{.0006AGR} + \underset{(2.07)**}{.0004SEV} + \underset{(1.66)}{.0000022PY}$$

$$+\underset{(2.95)***}{.1511} \qquad R^2 = .68$$

Variable

BUSSHARE = Business's share of state and local taxes, FY90. (See Appendix D for method of calculation and sources of data).

K/L = Capital/labor ratio, 1990. (See Appendix E for method of calculation and sources of data).

AGR = Value of farmland per capita, 1990. Source: U.S. ACIR (1990).

SEV = Severance tax capacity per capita, 1988. Source: U.S. ACIR (1990).

PY = Personal income per capita, 1990. Source: U.S. Census Bureau, Governmental Finances 1990-91 (1993).

Number of observations: 49 (Alaska is excluded)
Degrees of freedom: 44

Note: Numbers in parentheses are t-statistics

***Significant at the 1 percent level, two-tailed test
**Significant at the 5 percent level, two-tailed test

[12]Boston's official property tax rate on residential property in 1992 was $11.18 per $1000 of fair market value. By comparison, its rate on industrial and commercial property was $32.27 per $1000 of fair market value. Source: Massachusetts Taxpayers Foundation (1992).

[13]The major limitation of the approach used in the District of Columbia study is the difficulty of constructing hypothetical households truly representative of their income class. Income classes, especially those at the high end of the scale, are so diverse that they are difficult to portray in a single fictitious household. In addition, the state and local tax burden imposed on households in a state's largest city is not always representative of the comparable burden in other cities. For example, several large cities, such as Detroit, Baltimore, and New York City, impose their own personal income taxes on top of their state's income tax.

[14]Commonwealth of Massachusetts (1987).

[15]There are two outliers: Lancaster, Pennsylvania and El Paso, Texas. El Paso always has the highest ROA (the lowest tax burden) because Texas is the only state represented among the sites that has no corporate income tax. The difference in ROA between these extreme cases varies between 1.6 and 1.8 percentage points, depending on the industry analyzed.

List of References

Bartik, Timothy J. 1985. "Business Location Decisions in the United States: Estimates of the Effects of Unionization, Taxes, and Other Characteristics of States." *Journal of Business and Economic Statistics* 3, 1 (January): 14-22.

Bartik, Timothy J. 1989. "Small Business Start-Ups in the United States: Estimates of the Effects of Characteristics of States." *Southern Economic Journal* 55,4 (April): 1004-1018.

Bartik, Timothy J. 1991. Who Benefits From State and Local Economic Development Policies? Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Benson, Bruce L. and Ronald N. Johnson. 1986. "The Lagged Impact of State and Local Taxes on Economic Activity and Political Behavior." *Economic Inquiry* 24 (July): 389-401.

Calzonetti, F.J. and Robert T. Walker. 1991. "Factors Affecting Industrial Location Decisions: A Survey Approach." In Industry Location and Public Policy, eds. Henry W. Herzog, Jr. and Alan M. Schlottmann, Knoxville, TN: University of Tennessee Press.

Canto, Victor A. and Robert I. Webb. 1987. "The Effect of State Fiscal Policy on State Relative Economic Performance." *Southern Economic Journal* 54,1 (July): 186-202.

Carlton, Dennis W. 1979. "Why Do New Firms Locate Where They Do: An Econometric Model." In William C. Wheaton, ed. Interregional Movements and Regional Growth. Washington, DC: The Urban Institute.

Carlton, Dennis W. 1983. "The Location and Employment Choices of New Firms: An Econometric Model With Discrete and Continuous Endogenous Variables." *Review of Economics and Statistics* 65 (August): 440-449.

Commonwealth of Massachusetts. 1987. "The Competitiveness of the Massachusetts Tax System in the Development of a Tax Reform Program for the Commonwealth." Eighth Interim Report to the Massachusetts Special Commission on Tax Reform.

Fox, William F. and Matthew N. Murray. 1990. "Local Public Policies and Interregional Business Development." *Southern Economic Journal* 57, 2 (October): 413-427.

Government of the District of Columbia. 1992. *Tax Rates and Tax Burdens in the District of Columbia: A Nationwide Comparison.* Washington DC: Department of Finance and Revenue.

Helms, L. Jay. 1985. "The Effect of State and Local Taxes on Economic Growth: A Time Series- Cross Section Approach." *Review of Economics and Statistics* 67 (Feb.): 574-582.

Massachusetts Taxpayers Foundation. 1992. *Municipal Financial Data, 22nd Edition.*

McLure, Charles E. 1986. "Tax Competition: Is What's Good for the Private Goose Also Good for the Public Gander?" *National Tax Journal* 39,3 (September): 341-348.

McGuire, Theresa and Michael Wasylenko. 1987. "Employment Growth and State Government Fiscal Behavior: A Report on Economic Development for States From 1973 to 1984." Report prepared for The New Jersey State and Local Expenditure and Revenue Policy Commission, July 2, 1987.

Minnesota Tax Study Commission. 1986. "Jobs and Taxes: The Effect of the Business Climate on Minnesota Employment." Final Report of the Minnesota Tax Study Commission: Volume 2, Staff Papers. St. Paul, Minnesota: Butterworth Legal Publishers.

Mofidi, Alaeddin and Joe A. Stone. 1990. "Do State and Local Taxes Affect Economic Growth?" *The Review of Economics and Statistics* 72, 4 (November): 686-691.

Munnell, Alicia H. 1990. "How Does Public Infrastructure Affect Regional Economic Performance?" *New England Economic Review* (September/October): 11-32.

Newman, Robert J. 1983. "Industry Migration and Growth in the South." *Review of Economics and Statistics* 65: 76-86.

Papke, Leslie E. 1987. "Subnational Taxation and Capital Mobility: Estimates of Tax-Price Elasticities." *National Tax Journal* 40,2 (June): 191-204.

Papke, Leslie E. 1991. "Interstate Business Tax Differentials and New Firm Location: Evidence From Panel Data." *Journal of Public Economics* 45: 47-68.

Plaut, Thomas R. and Joseph E. Pluta. 1983. "Business Climate, Taxes and Expenditures, and State Industrial Growth in the United States." *Southern Economic Journal* 50:99-119.

Pomp, Richard D. 1987. "Reforming a State Corporate Income Tax." *Albany Law Review* 51:3/4 (Spring/Summer): 393-409.

Reschovsky, Andrew, et al. 1983. State Tax Policy: Evaluating the Issues. Cambridge, MA: Joint Center for Urban Studies of MIT and Harvard University.

Schmenner, Roger W., Joel C. Huber, and Randall L. Cook. 1987. "Geographic Differences and the Location of New Manufacturing Facilities." *Journal of Urban Economics* 21: 83-104.

Shannon, John. 1986. "Interstate Tax Competition -- The Need for a New Look." *National Tax Journal* 39,3 (September): 339-340.

Stutzer, Michael J. 1985. "The Statewide Economic Impact of Small-Issue Industrial Revenue Bonds." *Quarterly Review Federal Reserve Bank of Minneapolis (Spring)*: 2-13.

Tannenwald, Robert. 1987. "Rating Massachusetts' Tax Competitiveness." *New England Economic Review (November/December)*.

Testa, William A. 1989. "Metro Area Growth from 1976 to 1985: Theory and Evidence." Working Paper. Federal Reserve Bank of Chicago, January.

U.S. Advisory Commission on Intergovernmental Relations. 1981. "Regional Growth: Interstate Tax Competition (Report A-76)." Washington DC: U.S. Advisory Commission on Intergovernmental Relations.

U.S. Advisory Commission on Intergovernmental Relations. *Changing Public Attitudes on Government and Taxes*. Washington DC: U.S. Government Printing Office, several years.

Wasylenko, Michael. 1988. "Economic Development in Nebraska." Nebraska Comprehensive Tax Study Staff Paper Number 1. Metropolitan Studies Program. The Maxwell School, Syracuse, NY: Syracuse University.

Wasylenko, Michael. 1991. "Empirical Evidence on Interregional Business Location Decisions and the Role of Fiscal Incentives in Economic Development." In Henry W. Herzog, Jr. and Alan M. Schlottmann, eds. Industry Location and Public Policy. Knoxville, TN: University of Tennessee Press.

Wasylenko, Michael. 1992. "Tax Policy and Jobs: The Role of Fiscal Policy." *Comments On Your Government*. Rhode Island Public Expenditure Council. May 12, 1992.

Wasylenko, Michael and Robert Carroll. January, 1993. "Do State Business Climates Still Matter? Evidence of a Structural Change." Unpublished.

Wasylenko, Michael and Theresa McGuire. 1985. "Jobs and Taxes: The Effect of Business Climate on States' Employment Growth Rates." *National Tax Journal* 38,4 (December): 497-512.

Wheat, Leonard F. 1986. "The Determinants of 1963-77 Regional Manufacturing Growth: Why the South and West Grow." *Journal of Regional Science* 26,4: 635-659.

Wheaton, William. 1983. "Interstate Differences in the Level of Business Taxation." *National Tax Journal* 36,1 (March): 83-94.

Appendices

Appendix A

Summary of Interregional Studies on the Influence of Fiscal Variables on Business Locations

Appendix A

A Summary of Interregional Studies on the Influence of Fiscal Variables on Business Locations

Study	Industries and Data Analyzed	Results for Business Climate Variables
A. Articles included in the Wasylenko study.		
Carlton (1979)	Dun & Bradstreet data on SMSAs for manufacturing: SIC 3079, 3662, and 3679. Dependent variables: 1. Single establishment births: 1967-1971, 1972-1975 2. Branch plant births: 1967-1971	**Statistically insignificant:** a. Business Climate Index b. Combined State Corporate and Personal Business Income Tax c. Property Tax Rate
Carlton (1983)	Same data as 1979 study: Examines: Employment size of branch plants	**Statistically insignificant:** a. Business Climate b. Combined Corporate and Personal Income Tax
Plaut and Pluta (1983)	Aggregate percentage change in manufacturing employment in 48 states during 1967-1972 and 1972-1977.	**Statistically significant:** a. Business Climate Rank b. Overall Tax Effort c. Education Expenditures **Statistically insignificant:** a. Corporate Taxes b. Personal Taxes c. Sales Tax d. Welfare expenditures
Newman (1983)	Employment growth for 13 SIC manufacturing industries and for aggregate manufacturing in 48 states between 1957 and 1965 and between 1965 and 1973	**Statistically significant:** a. Corporate Tax Rate for aggregate manufacturing and for 5 of 13 SIC manufacturing industries b. Right-to-Work Law for aggregate manufacturing and for 11 of 13 SIC manufacturing incustries
Bartik (1985)	Branch plant locations for Fortune 500 firms in 48 states between 1972 and 1978.	**Statistically significant:** a. Corporate Income Tax b. Percentage Unionized **Statistically insignificant or wrong sign:** a. Unemployed Insurance Tax b. Workers' Compensation Tax c. Property Tax

Appendix A (cont'd)

Study	Industries and Data Analyzed	Results for Business Climate Variables
Wasylenko and McGuire (1985)*	Employment growth for 48 states between 1973 and 1980 for total employment (TE) and employment in six major industries: Manufacturing (MFG), Transportation (T), Wholesale Trade (WT), Retail Trade (RT), Finance (F), and Services (S).	**Statistically significant in industry:** a. Education Expenditure in industry (TE), (RT), (F) b. Change in Relative Tax Effort Rate in (TE), (MFG), (S) c. Effective Personal Income Tax Rate in (WT), (RT), (F) d. Sales Tax in (WT) **Statistically insignificant in all industries:** a. Welfare Expenditure b. Effective Corporate Income Tax c. Time Lost Due to Work Stoppages d. Small-Issue Industrial Revenue Bonds
Stutzer (1985)	Time series estimation of Minnesota employment 1960-82	Small-Issue Industrial Revenue Bonds do not add to the explanation of employment growth in Minnesota.
Helms (1985)	State personal income in 1967 dollars for 1965 through 1979 for 48 states	**Statistically significant:** a. Property tax b. Other taxes c. User fees d. Health expenditure e. Highway expenditure f. Expenditure on local schools g. Expenditure on higher education h. Other expenditures i. Deficit
Benson and Johnson (1986)	Manufacturing firms' expenditure on plant and equipment in each state. Pooled cross section and time series: 1966-1968.	**Statistically significant:** a. Ratio of state and local taxes to personal income **Statistically insignificant:** a. Per Capita Expenditure on Welfare

Appendix A (cont'd)

Study	Industries and Data Analyzed	Results for Business Climate Variables
Schmenner, Huber, and Cooke (1987)	401 new Fortune 500 plants that were opened in the 1970s	**Statistically insignificant:** a. Corporate tax rates b. Property tax c. Workers' compensation benefits d. State and local spending per dollar of personal income e. Unemployment compensation benefits However, when factors that relate to specific plants are taken into account, the property tax, workers' compensation and unemployment compensation benefits occasionally become statistically significant.
Papke (1987)	New capital expenditure per production worker for 1978 using a pooled sample of 20 2-digit and 3-digit manufacturing industries for 20 states.	**Statistically significant variables:** a. After-tax rate of return on investment. **Statistically insignificant:** a. ACIR business tax variable. b. Effective tax rates reported in Wheaton (1983) c. Police and fire expenditures per capita.
Wasylenko (1988)	Employment growth for 48 states between 1980 and 1985 for total nonagricultural employment (TE) and employment in several major industries: Manufacturing (MFG), Durables Manufacturing (DM), Non-durables Manufacturing (NDM), Transportation (T), Wholesale Trade (WT), Retail Trade (RT),Finance (F) and Services (S).	**Statistically significant variables with expected signs in industry (.):** a. State and local expenditures as percent of state (NDM), (T). b. State and local tax revenue as a percent of state income (MFG), (NDM) c. Progressivity of State Personal Income tax (TE), (T), (WT) d. Number of state special service incentive programs (MFG), (DM), (NDM) **Statistically significant variables with unexpected signs:** a. State and local expenditures as percentage of state personal income: (DM) b. Progressivity of the state personal income tax: (DM), (NDM) c. Number of financial incentive programs: (TE), (MFG), (DM), (NDM), (RT). d. Number of tax incentive programs: (MFG), (DM)

Study	Industries and Data Analyzed	Results for Business Climate Variables
B. Articles not included in the Wasylenko study		
Minnesota Tax Study Commission (1986)*	Employment growth rate for 48 states between 1973 and 1980 in six major industries: Manufacturing (MFG), Transportation (T), Wholesale Trade (WT), Retail Trade (RT), Finance, Insurance, and Real Estate (FIRE), Services (S), and Total employment in the six (TE).	**Statistically significant in industry:** a. Wages in (TE), (RT), (FIRE), and (S). b. Energy prices in all <u>but</u> (MFG). c. Percentage change in tax effort in (TE), (MFG), (RT), and (S). d. ACIR's measure of effective tax rate (ratio of corporate tax revenue to corporate tax capacity) in (TE). e. Personal taxes for households with income greater than $50,000 in (WT), (RT), and (FIRE). f. Sales tax in (WT). **Statistically insignificant in industry:** a: Wages in (MFG), (T), (WT). b. Energy prices in (MFG). c. Percentage change in tax effort in (T), (WT), and (FIRE). d. ACIR's measure of effective tax rate in (MFG), (T), (WT), (RT), (FIRE), and (S). e. Personal taxes for households with income greater than $50,000 in (TE), (MFG), (T), and (S). f. Sales tax in (TE), (MFG), (T), (RT), (FIRE), (S).
Munnell (1990)	Growth in employment by state between 1970 and 1988.	**Statistically significant:** a. Total state and local taxes as a percent of personal income. b. Public capital c. Average hourly wage in manufacturing
Papke (1991)	Number of new plant births from 1975 to 1982 in 22 states and 5 industries: Women's Outerwear (233), Household Furniture (251), Book Printing (273), Communication Equipment (366), and Electronic Components (367).	**Statistically significant in industry:** a. Effective tax rate in (233) and (273) b. Wages in (233), (251), (273), and (366). **Statistically insignificant in industry:** a. Effective tax rates in (251), (366), and (367). b. Wages in (367).

Appendix A (cont'd)

Study	Industries and Data Analyzed	Results for Business Climate Variables
Wasylenko and Carroll (1993)	Employment by state between 1967 and 1988 for major industries: manufacturing (MFG), transportation (T), wholesale and retail trade (WRT), finance, insurance and real estate (FIRE), services (S), and total nonagricultural employment (TE). The time period 1967-1988 was broken into two regimes for each industry.	**Statistically significant in industry:** a. Property tax in (MFG:1967-1983), (WRT:1980-1988), and (TE:1980-1988). b. Personal income tax in (MFG:1967-1983), and (T:1978-1988). c. Corporate tax in (MFG:1967-1983) and (T:1978-1988). d. Other taxes in (MFG:1967-1983) and (T:1978-1988). **Statistically insignificant in industry and time period:** a: Property tax in (MFG:1984-1988), (T:1967-1977,1978-1988), (WRT:1967-1979), (FIRE:1967-1979,1980-1988), (S:1967-1978,1979-1988), and (TE:1967-1979). b: Personal income tax in (MFG:1984-1988), (T:1967-1977), (WRT:1967-1979,1980-1988), (FIRE:1967-1979,1980-1988), (S:1967-1978,1979-1988), and (TE:1967-1979,1980-1988). c: Corporate income tax in (MFG:1984-1988), (T:1967-1977), (WRT:1967-1979,1980-1988), (FIRE:1967-1979), (S:1967-1978,1979-1988), and (TE:1967-1979,1980-1988). d: Other taxes in (MFG:1984-1988), (T:1967-1977), (WRT:1967-1979,1980-1988), (FIRE: 1967-1979), (S:1979-1988), and (TE:1967-1979,1980-1988). e: User fees in (MFG:1967-1983,1984-1988), (T:1967-1977,1978-1988), (WRT:1967-1979,1980-1988), (FIRE: 1980-1988), (S:1967-1978,1979-1988), and (TE:1967-1979,1980-1988).

*Note: The Wasylenko and McGuire (1985) and Minnesota Tax Study Commission (1986) studies are virtually the same.

ource: Wasylenko, Michael. 1991. "Empirical Evidence on Interregional Business Location Decisions and the Role of Fiscal Incentives in Economic Development." In Henry W. Herzog, Jr. and Alan M. Schlottmann, eds. Industry Location and Public Policy. Knoxville, TN: University of Tennessee Press. Augmented by staff of the Massachusetts Special Commission on Business Tax Policy.

Appendix B

Massachusetts' Ranking According to Selected Indicators of Tax Competitiveness

Appendix B-1
Tax Capacity and Tax Effort Indexes, by State, 1988

State	Tax Capacity Index (U.S. = 100)	Tax Capacity Rank	Tax Effort Index (U.S. = 100)	Tax Effort Rank
MASSACHUSETTS	**129**	**4**	**94**	**29**
NEW ENGLAND	**114**		**93**	
Connecticut	143	2	90	36
Maine	98	22	105	11
New Hampshire	126	5	66	51
Rhode Island	99	19	104	12
Vermont	105	15	100	18
HIGH TECH	**102**		**97**	
Arizona	99	20	96	24
California	116	10	94	28
Maryland	109	12	108	9
North Carolina	91	31	93	32
Texas	96	24	88	42
Washington	98	23	102	14
INDUSTRIAL	**102**		**110**	
Illinois	99	21	102	16
Michigan	95	25	112	7
New Jersey	124	7	101	17
New York	109	13	152	2
Ohio	91	30	97	22
Pennsylvania	94	26	97	23
ALL OTHER STATES	**94**		**97**	
Alabama	76	48	84	45
Alaska	159	1	127	3
Arkansas	74	50	84	46
Colorado	107	14	89	39
Delaware	124	6	84	47
District of Columbia	123	8	154	1
Florida	104	18	82	49
Georgia	94	27	89	38
Hawaii	114	11	112	6
Idaho	76	49	93	31
Indiana	87	36	93	33
Iowa	83	42	113	5
Kansas	91	28	104	13
Kentucky	81	43	88	41
Louisiana	83	41	90	37
Minnesota	104	16	112	8
Mississippi	65	51	94	27
Missouri	90	32	86	44

Appendix B-1 (cont'd)
Tax Capacity and Tax Effort Indexes, by State, 1988

State	Tax Capacity Index (U.S. = 100)	Tax Capacity Rank	Tax Effort Index (U.S. = 100)	Tax Effort Rank
Montana	85	38	102	15
Nebraska	90	34	98	21
Nevada	135	3	69	50
New Mexico	83	40	99	19
North Dakota	86	37	91	35
Oklahoma	89	35	89	40
Oregon	91	29	99	20
South Carolina	79	44	96	25
South Dakota	78	45	95	26
Tennessee	84	39	83	48
Utah	78	47	106	10
Virginia	104	17	91	34
West Virginia	78	46	88	43
Wisconsin	90	33	119	4
Wyoming	123	9	94	30

Source: U.S. Advisory Commission on Intergovernmental Relations, 1988 State Fiscal Capacity and Effort, Table 5 - 1, M-170, Washington, D.C., August 1990.

Appendix B-2
Overall Revenue Effort, by State, 1988

State	Own-Source Revenue Capacity Index (US = 100)	Rank	Own-Source Revenue Effort Index (US = 100)	Rank
MASSACHUSETTS	**131**	**3**	**89**	**44**
NEW ENGLAND	**113**		**89**	
Connecticut	142	2	83	49
Maine	97	23	99	22
New Hampshire	123	7	66	51
Rhode Island	100	20	99	23
Vermont	102	18	100	21
HIGH TECH	**101**		**97**	
Arizona	97	22	97	29
California	115	10	98	27
Maryland	111	12	102	19
North Carolina	89	33	91	39
Texas	95	26	89	45
Washington	98	21	105	13
INDUSTRIAL	**103**		**122**	
Illinois	100	19	195	35
Michigan	96	24	112	7
New Jersey	126	6	95	34
New York	110	13	141	1
Ohio	92	28	98	25
Pennsylvania	95	25	93	38
ALL OTHER STATES	**96**		**99**	
Alabama	77	46	95	31
Alaska	255	1	122	3
Arkansas	74	50	86	48
Colorado	106	14	94	36
Delaware	120	8	94	37
District of Columbia	126	5	137	2
Florida	103	17	87	46
Georgia	93	27	98	26
Hawaii	111	11	111	8
Idaho	76	49	98	24
Indiana	88	36	96	30
Iowa	84	41	118	4
Kansas	91	30	104	15
Kentucky	80	43	89	43
Louisiana	84	39	97	28
Minnesota	103	16	117	5
Mississippi	65	51	108	10
Missouri	89	32	86	47

Appendix B-2 (cont'd)
Overall Revenue Effort, by State, 1988

State	Own-Source Revenue Capacity Index (US = 100)	Rank	Own-Source Revenue Effort Index (US = 100)	Rank
Montana	84	40	102	18
Nebraska	89	34	106	12
Nevada	129	4	75	50
New Mexico	88	35	103	17
North Dakota	85	38	107	11
Oklahoma	87	37	95	33
Oregon	91	29	104	16
South Carolina	78	44	20	20
South Dakota	78	45	102	32
Tennessee	84	42	95	42
Utah	76	47	89	9
Virginia	104	15	109	40
West Virginia	76	48	90	41
Wisconsin	90	31	117	6
Wyoming	118	9	105	14

Source: U.S. Advisory Commission on Intergovernmental Relations. 1988 State Fiscal Capacity and Effort. Table 5 - 2, M-170, Washington, D.C., August 1990.

Appendix B-3
State and Local Own-Source Revenues Per Capita, FY91, by State

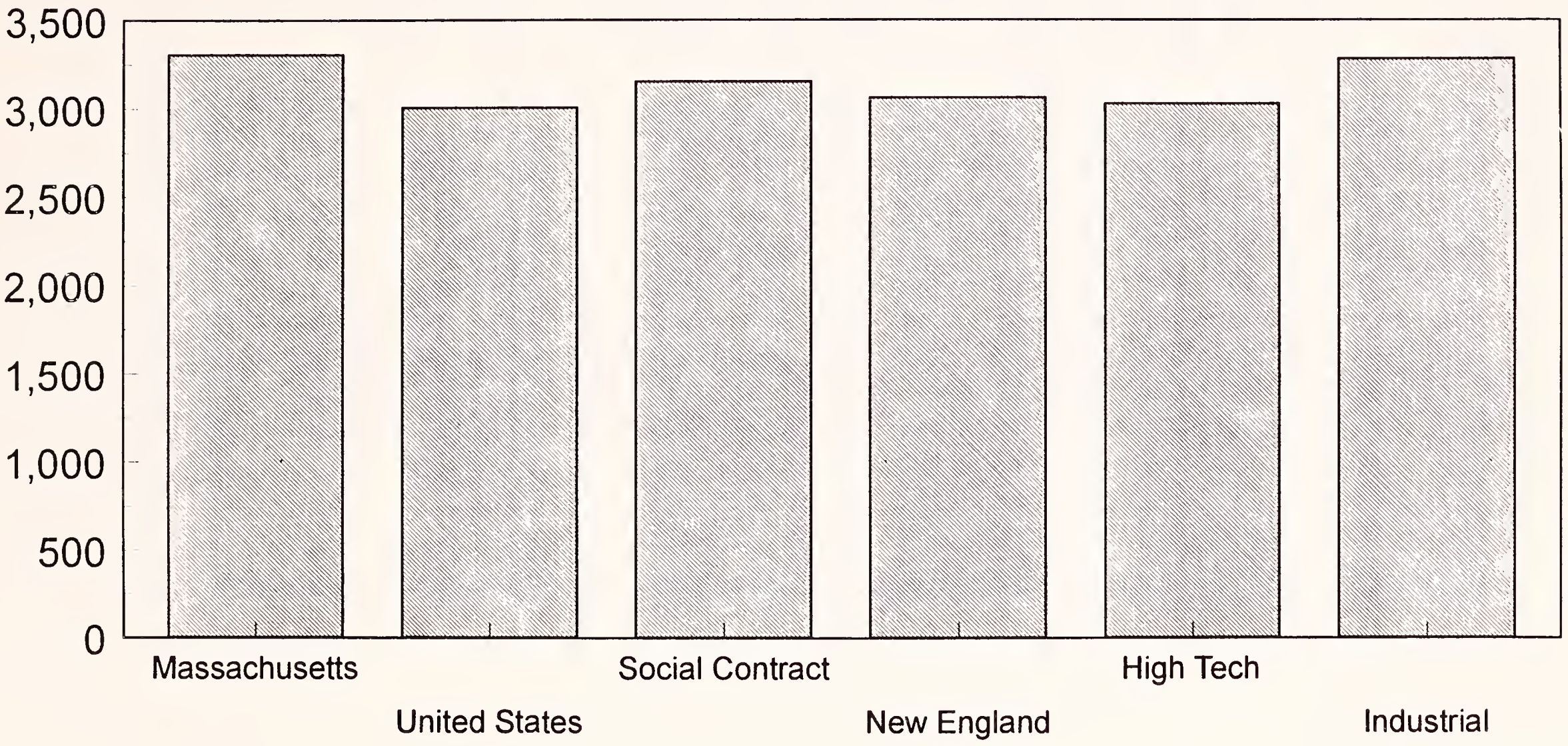
State	Own-Source Revenues Per Capita	Rank
MASSACHUSETTS	**$3,308.39**	**10**
UNITED STATES	**3,007.90**	
SOCIAL CONTRACT	**3,153.41**	
NEW ENGLAND	**3,062.05**	
Connecticut	3,392.73	8
Maine	2,756.16	29
New Hampshire	2,648.14	32
Rhode Island	2,823.97	27
Vermont	3,038.16	17
HIGH TECH	**3,028.41**	
Arizona	2,881.36	23
California	3,378.01	9
Maryland	3,085.04	14
North Carolina	2,426.30	42
Texas	2,597.21	36
Washington	3,270.95	11
INDUSTRIAL	**3,283.41**	
Illinois	2,840.69	26
Michigan	3,036.13	18
New Jersey	3,661.92	5
New York	4,378.30	2
Ohio	2,618.50	33
Pennsylvania	2,605.76	34
ALL OTHER STATES	**2,767.82**	
Alabama	2,281.10	46
Alaska	11,445.49	1
Arkansas	1,973.41	50
Colorado	3,058.51	16
Delaware	3,530.03	7
Florida	2,907.86	20
Georgia	2,687.04	30
Hawaii	4,097.82	4
Idaho	2,463.54	40
Indiana	2,604.75	35
Iowa	2,883.81	22
Kansas	2,800.08	28
Kentucky	2,473.17	39

Appendix B-3 (cont'd)
State and Local Own-Source Revenues Per Capita, FY91, by State

State	Own-Source Revenues Per Capita	Rank
Louisiana	2,680.21	31
Minnesota	3,571.41	6
Mississippi	2,073.34	49
Missouri	2,241.31	47
Montana	2,453.80	41
Nebraska	2,905.03	21
Nevada	3,102.17	12
New Mexico	3,016.86	19
North Dakota	2,881.01	24
Oklahoma	2,512.59	37
Oregon	3,063.53	15
South Carolina	2,419.60	43
South Dakota	2,309.55	45
Tennessee	2,170.28	48
Utah	2,500.78	38
Virginia	2,845.19	25
West Virginia	2,416.64	44
Wisconsin	3,093.96	13
Wyoming	4,247.13	3
MEDIAN	2,842.94	

Source: U.S. Bureau of the Census, Governmental Finances, 1990-91 and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Appendix B-3
State and Local Own-Source Revenues Per Capita, FY91
Massachusetts and Average for Selected Groups of States



Source: US Bureau of the Census, Governmental Finances, 1990-91, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Appendix B-4
State and Local Taxes Per Capita, FY91, by State

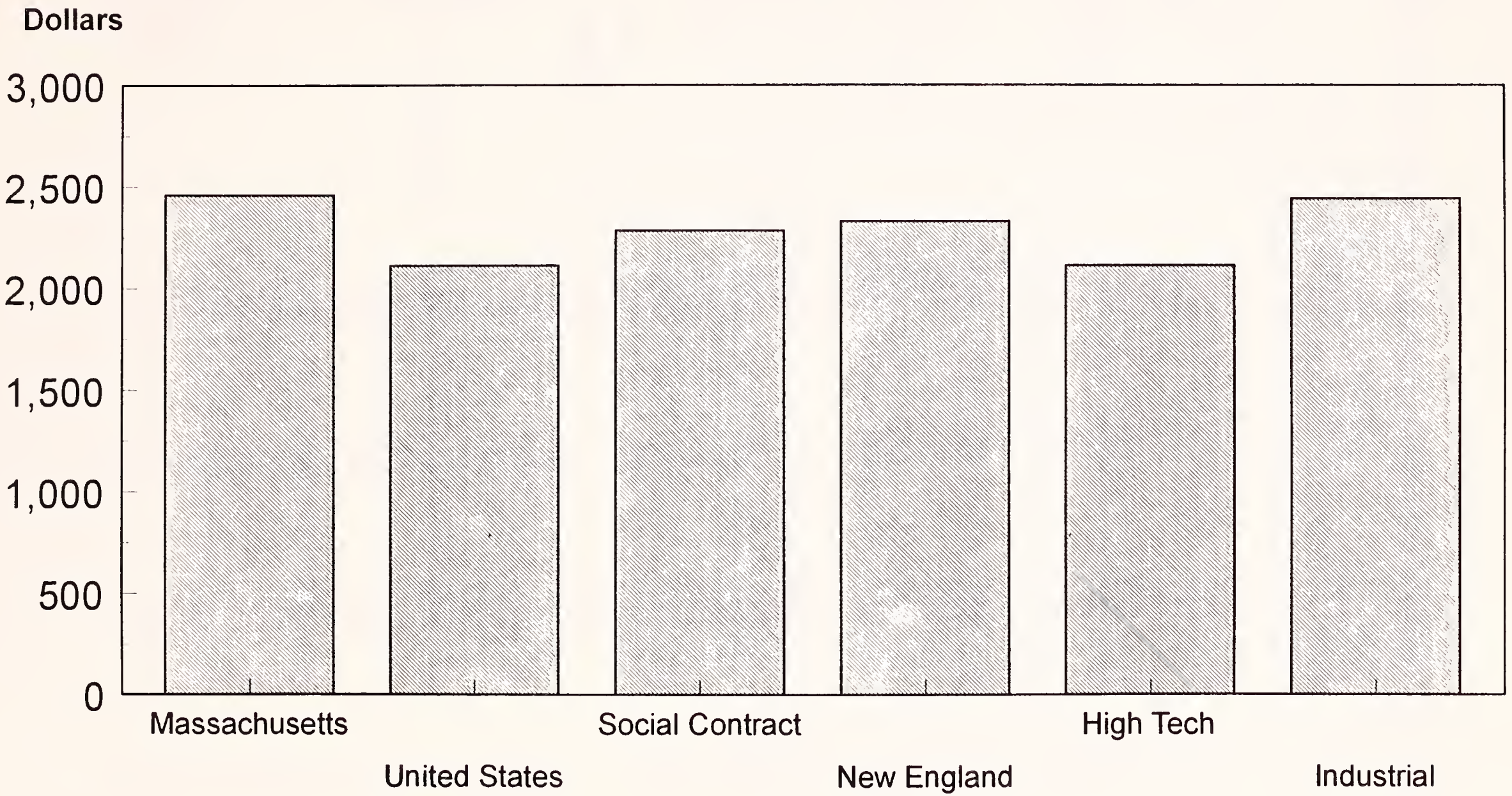
State	Taxes Per Capita	Rank
MASSACHUSETTS	**$2,460.78**	**6**
UNITED STATES	**2,112.03**	
SOCIAL CONTRACT	**2,283.54**	
NEW ENGLAND	**2,329.02**	
Connecticut	2,669.97	5
Maine	2,044.27	21
New Hampshire	1,907.79	27
Rhode Island	2,134.37	15
Vermont	2,136.11	14
HIGH TECH	**2,113.36**	
Arizona	2,050.96	20
California	2,330.11	8
Maryland	2,321.50	9
North Carolina	1,699.72	37
Texas	1,794.81	32
Washington	2,305.77	10
INDUSTRIAL	**2,442.87**	
Illinois	2,153.34	13
Michigan	2,112.74	17
New Jersey	2,789.23	4
New York	3,349.19	2
Ohio	1,867.43	30
Pennsylvania	1,899.61	28
ALL OTHER STATES	**1,831.67**	
Alabama	1,380.25	48
Alaska	4,571.82	1
Arkansas	1,346.73	49
Colorado	2,009.35	22
Delaware	2,124.29	16
Florida	1,877.93	29
Georgia	1,836.92	31
Hawaii	2,936.51	3
Idaho	1,654.99	40
Indiana	1,759.70	33
Iowa	1,959.90	25
Kansas	1,943.13	26
Kentucky	1,742.70	35

Appendix B-4 (cont'd)
State and Local Taxes Per Capita, FY91, by State

State	Taxes Per Capita	Rank
Louisiana	1,666.59	39
Minnesota	2,378.39	7
Mississippi	1,314.17	50
Missouri	1,608.54	43
Montana	1,484.35	46
Nebraska	1,973.52	24
Nevada	2,074.66	18
New Mexico	1,759.33	34
North Dakota	1,722.72	36
Oklahoma	1,686.47	38
Oregon	2,073.64	19
South Carolina	1,592.96	44
South Dakota	1,504.26	45
Tennessee	1,431.98	47
Utah	1,644.34	41
Virginia	1,991.22	23
West Virginia	1,637.30	42
Wisconsin	2,254.79	12
Wyoming	2,282.65	11
MEDIAN	1,951.51	

Source: U.S. Bureau of the Census, Governmental Finances, 1990-91 and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Appendix B-4
State and Local Taxes Per Capita, FY91
Massachusetts and Average for Selected Groups of States



Source: US Bureau of the Census, Governmental Finances, 1990-91, and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Appendix B-5
Tax Capacity and Tax Effort Indexes, 1988--Personal Income Taxes

State	Tax Capacity Index (U.S. = 100)	Tax Capacity Rank	Tax Effort Index (U.S. = 100)	Tax Effort Rank
MASSACHUSETTS	**144**	**3**	**131**	**18**
NEW ENGLAND	**108**		**82**	
Connecticut	169	1	18	42
Maine	80	34	160	7
New Hampshire	107	13	7	43
Rhode Island	101	16	107	27
Vermont	85	29	118	22
HIGH TECH	**99**		**84**	
Arizona	86	27	80	37
California	116	8	109	26
Maryland	130	6	165	5
North Carolina	81	31	147	10
Texas	87	25	0	Z
Washington	95	21	0	Z
INDUSTRIAL	**113**		**112**	
Illinois	112	11	68	39
Michigan	104	15	115	24
New Jersey	139	4	66	40
New York	138	5	177	2
Ohio	92	22	138	16
Pennsylvania	95	20	109	25
ALL OTHER STATES	**82**		**104**	
Alabama	66	40	101	31
Alaska	128	7	0	45
Arkansas	57	48	121	19
Colorado	98	19	100	33
Delaware	116	9	146	12
District of Columbia	149	2	180	1
Florida	105	14	0	Z
Georgia	88	24	119	21
Hawaii	98	18	161	6
Idaho	56	50	138	15
Indiana	81	32	121	20
Iowa	75	37	140	13
Kansas	86	26	107	28
Kentucky	66	41	147	11
Louisiana	62	45	59	41
Minnesota	100	17	169	4
Mississippi	47	51	80	36
Missouri	91	23	101	32

Appendix B-5 (cont'd)
Tax Capacity and Tax Effort Indexes, 1988--Personal Income Taxes

State	Tax Capacity Index (U.S. = 100)	Tax Capacity Rank	Tax Effort Index (U.S. = 100)	Tax Effort Rank
Montana	62	44	136	17
Nebraska	77	35	98	34
Nevada	114	10	0	Z
New Mexico	63	43	89	35
North Dakota	65	42	73	38
Oklahoma	69	38	104	29
Oregon	84	30	153	9
South Carolina	66	39	139	14
South Dakota	57	49	0	46
Tennessee	76	36	6	44
Utah	62	46	170	3
Virginia	109	12	117	23
West Virginia	58	47	101	30
Wisconsin	85	28	157	8
Wyoming	81	33	0	Z

Z = Zero revenue reported.
Source: U.S. Advisory Commission on Intergovernment Relations, 1988 State Fiscal Capacity and Effort, Table 5 - 23, M-170 Washington, D.C., August 1990.

Appendix B-6
Tax Capacity and Tax Effort Indexes, 1988--All Property Taxes

State	Tax Capacity Index (U.S. = 100)	Tax Capacity Rank	Tax Effort Index (U.S. = 100)	Tax Effort Rank
MASSACHUSETTS	**145**	**2**	**89**	**30**
NEW ENGLAND	**121**		**120**	
Connecticut	160	1	106	20
Maine	101	20	106	19
New Hampshire	137	5	127	15
Rhode Island	100	21	131	11
Vermont	107	15	130	12
HIGH TECH	**107**		**87**	
Arizona	110	12	89	28
California	133	6	76	38
Maryland	108	14	88	32
North Carolina	91	26	63	42
Texas	91	27	118	18
Washington	109	13	89	31
INDUSTRIAL	**98**		**126**	
Illinois	90	28	129	13
Michigan	85	34	157	2
New Jersey	128	7	136	10
New York	106	17	151	6
Ohio	87	32	95	24
Pennsylvania	92	25	89	29
ALL OTHER STATES	**90**		**91**	
Alabama	69	50	35	50
Alaska	104	19	193	1
Arkansas	70	49	53	46
Colorado	126	8	89	26
Delaware	138	4	35	51
District of Columbia	119	9	155	3
Florida	99	22	93	25
Georgia	89	29	83	35
Hawaii	114	3	42	48
Idaho	83	37	80	36
Indiana	80	38	103	23
Iowa	78	31	152	4
Kansas	87	48	125	17
Kentucky	71	41	57	44
Louisiana	78	40	51	47
Minnesota	112	11	104	22
Mississippi	59	51	85	33
Missouri	78	41	71	39

Appendix B-6 (cont'd)
Tax Capacity and Tax Effort Indexes, 1988--All Property Taxes

State	Tax Capacity Index (U.S. = 100)	Tax Capacity Rank	Tax Effort Index (U.S. = 100)	Tax Effort Rank
Montana	86	33	145	9
Nebraska	94	23	127	16
Nevada	107	16	66	40
New Mexico	76	44	40	49
North Dakota	74	46	105	21
Oklahoma	88	30	56	45
Oregon	93	24	152	5
South Carolina	75	45	79	37
South Dakota	77	43	129	14
Tennessee	78	42	65	41
Utah	83	36	89	27
Virginia	105	18	84	34
West Virginia	72	47	59	43
Wisconsin	84	35	147	8
Wyoming	115	10	147	7

Z = Zero revenue reported.

Source: U.S.Advisory Commission on Intergovernmental Relations, 1988 State Fiscal Capacity and Effort, Table 5 - 25, M-170 Washington, D.C., August 1990.

Appendix B-7
State and Local Corporate Tax Collections as a Percentage of Personal Income, FY91, by State

State	S & L Corporate Tax Collections as a Percentage of Personal Income	Rank
MASSACHUSETTS	**.52**	**11**
NEW ENGLAND	**.39**	
Connecticut	.60	7
Maine	.35	29
New Hampshire	.51	14
Rhode Island	.24	41
Vermont	.27	40
HIGH TECH	**.28**	
Arizona	.31	34
California	.70	6
Maryland	.24	42
North Carolina	.44	20
Texas	.00	47
Washington	.00	47
INDUSTRIAL	**.54**	
Illinois	.39	26
Michigan	.92	2
New Jersey	.52	12
New York	.53	10
Ohio	.43	21
Pennsylvania	.44	19
ALL OTHER STATES	**.44**	
Alabama	.27	39
Alaska	2.11	1
Arkansas	.35	30
Colorado	.18	46
Delaware	.87	4
Florida	.23	43
Georgia	.36	28
Hawaii	.48	17
Idaho	.37	27
Indiana	.32	32
Iowa	.42	22
Kansas	.47	18
Kentucky	.40	25
Louisiana	.51	13

Appendix B-7 (cont'd)
State and Local Corporate Tax Collections as a Percentage of Personal Income, FY91, by State

State	S & L Corporate Tax Collections as a Percentage of Personal Income	Rank
Minnesota	.54	9
Mississippi	.40	24
Missouri	.91	3
Montana	.56	8
Nebraska	.29	35
Nevada	.00	47
New Mexico	.22	45
North Dakota	.51	15
Oklahoma	.28	38
Oregon	.29	36
South Carolina	.28	37
South Dakota	.34	31
Tennessee	.42	23
Utah	.32	33
Virginia	.23	44
West Virginia	.74	5
Wisconsin	.50	16
Wyoming	.00	47

Source: U.S. Department of Commerce Economics and Statistics Administration, U.S. Bureau of the Census, State Government Finances; 1991 and calculations by the staff of the Massachusetts Special Commission on Business Tax Policy.

Appendix B-8
Tax Capacity and Tax Effort Indexes, 1988--Corporation Net Income and Net Worth Taxes

State	Tax Capacity (per capita) Index (U.S. = 100)	Rank	Tax Effort (per capita) Index (U.S. = 100)	Rank
MASSACHUSETTS	**120**	**5**	**143**	**5**
NEW ENGLAND	**107**		**95**	
Connecticut	138	4	128	6
Maine	99	20	67	30
New Hampshire	111	7	114	11
Rhode Island	96	22	82	21
Vermont	93	24	82	22
HIGH TECH	**94**		**75**	
Arizona	78	43	52	42
California	105	15	153	4
Maryland	91	30	71	28
North Carolina	103	17	118	8
Texas	93	25	57	36
Washington	92	27	0	Z
INDUSTRIAL	**114**		**120**	
Illinois	113	6	74	25
Michigan	107	10	178	2
New Jersey	140	3	104	13
New York	109	9	198	1
Ohio	108	11	48	44
Pennsylvania	105	14	116	9
ALL OTHER STATES	**90**		**70**	
Alabama	86	33	70	29
Alaska	100	19	42	47
Arkansas	84	35	58	35
Colorado	92	28	46	45
Delaware	181	1	95	15
District of Columbia	149	2	158	3
Florida	79	39	60	34
Georgia	104	16	71	27
Hawaii	79	41	86	17
Idaho	78	42	74	26
Indiana	107	12	42	48
Iowa	86	32	65	32
Kansas	89	31	87	16
Kentucky	84	36	97	14
Louisiana	82	38	119	7
Minnesota	111	8	82	23
Mississippi	71	46	77	24
Missouri	102	18	49	43

Appendix B-8 (cont'd)
Tax Capacity and Tax Effort Indexes, 1988--Corporation Net Income and Net Worth Taxes

State	Tax Capacity (per capita) Index (U.S. = 100)	Rank	Tax Effort (per capita) Index (U.S. = 100)	Rank
Montana	65	49	83	19
Nebraska	84	34	54	39
Nevada	83	37	0	Z
New Mexico	59	51	53	41
North Dakota	67	48	82	20
Oklahoma	74	44	45	46
Oregon	93	26	62	33
South Carolina	92	29	67	31
South Dakota	65	50	54	40
Tennessee	95	23	106	12
Utah	70	47	57	37
Virginia	97	21	55	38
West Virginia	79	40	114	10
Wisconsin	106	13	85	18
Wyoming	72	45	6	49

Z = Zero revenue reported.
Source: U.S. Advisory Commission on Intergovernmental Relations, 1988 State Fiscal Capacity and Effort, Tables 5 - 24, M-170, Washington, D.C., August 1990.

Appendix B-9
Tax Capacity and Tax Effort Indexes, 1988--General Sales and Gross Receipts Taxes

State	Tax Capacity Index (U.S. = 100)	Tax Capacity Rank	Tax Effort Index (U.S. = 100)	Tax Effort Rank
MASSACHUSETTS	**123**	**6**	**65**	**44**
NEW ENGLAND	**122**		**71**	
Connecticut	125	4	112	13
Maine	112	9	83	34
New Hampshire	142	2	11	48
Rhode Island	104	17	85	33
Vermont	125	3	64	45
HIGH TECH	**102**		**122**	
Arizona	114	18	128	7
California	110	12	103	22
Maryland	107	14	82	35
North Carolina	93	31	90	29
Texas	95	27	121	12
Washington	95	26	206	1
INDUSTRIAL	**100**		**91**	
Illinois	97	23	104	20
Michigan	95	28	76	41
New Jersey	118	7	78	39
New York	102	19	127	9
Ohio	90	34	85	32
Pennsylvania	96	24	76	40
ALL OTHER STATES	**96**		**94**	
Alabama	76	49	107	17
Alaska	111	11	22	47
Arkansas	77	48	108	14
Colorado	100	20	99	25
Delaware	112	10	1	49
District of Columbia	108	13	146	4
Florida	118	8	108	16
Georgia	98	21	94	28
Hawaii	124	5	166	3
Idaho	74	50	101	24
Indiana	92	32	105	19
Iowa	87	37	80	37
Kansas	87	40	104	21
Kentucky	89	35	78	38
Louisiana	85	43	141	6
Minnesota	107	16	95	27
Mississippi	71	51	124	10
Missouri	94	29	105	18

Appendix B-9 (cont'd)
Tax Capacity and Tax Effort Indexes, 1988--General Sales and Gross Receipts Taxes

State	Tax Capacity Index (U.S. = 100)	Tax Capacity Rank	Tax Effort Index (U.S. = 100)	Tax Effort Rank
Montana	84	44	1	50
Nebraska	91	33	82	36
Nevada	205	1	58	46
New Mexico	82	46	170	2
North Dakota	97	22	75	42
Oklahoma	86	42	108	15
Oregon	94	30	0	Z
South Carolina	96	41	99	26
South Dakota	86	38	127	8
Tennessee	87	36	146	5
Utah	88	47	123	11
Virginia	78	15	66	43
West Virginia	107	45	87	31
Wisconsin	83	25	88	30
Wyoming	87	39	103	23

Source: U.S. Advisory Commission on Intergovernmental Relations, 1988 State Fiscal Capacity and Effort, Table 5-3, M-170, Washington, D.C., August 1990.

Appendix C

Severance Tax Capacity Per Capita, by State, 1988

Estimated Value of Farmland and Buildings Per Capita, by State, 1989

Appendix C-1
Severance Tax Capacity Per Capita, by State, 1988

State	Severance Tax Capacity per Capita	Rank
MASSACHUSETTS	**$ .17**	**47**
NEW ENGLAND	**.30**	
Connecticut	.19	46
Maine	.29	43
New Hampshire	.25	44
Rhode Island	.09	49
Vermont	.70	36
HIGH TECH	**16.09**	
Arizona	5.33	24
California	11.85	17
Maryland	.88	34
North Carolina	.42	41
Texas	77.16	8
Washington	.87	35
INDUSTRIAL	**4.64**	
Illinois	6.11	23
Michigan	6.98	20
New Jersey	.16	48
New York	.44	40
Ohio	6.73	21
Pennsylvania	7.40	19
ALL OTHER STATES	**63.12**	
Alabama	18.35	14
Alaska	888.80	1
Arkansas	15.77	16
Colorado	20.10	13
Delaware	.05	50
District of Columbia	.00	B
Florida	1.22	32
Georgia	1.11	33
Hawaii	.35	42
Idaho	1.48	31
Indiana	4.70	26
Iowa	.59	37
Kansas	46.39	10
Kentucky	34.85	12
Louisiana	90.59	5
Minnesota	1.50	30
Mississippi	16.53	15
Missouri	1.58	29
Montana	51.88	9
Nebraska	4.04	27

Appendix C-1 (cont'd)
Severance Tax Capacity Per Capita, by State, 1988

State	Severance Tax Capacity per Capita	Rank
Nevada	11.40	18
New Mexico	122.78	3
North Dakota	77.65	7
Oklahoma	111.91	4
Oregon	.49	39
South Carolina	.53	38
South Dakota	5.05	25
Tennessee	1.71	28
Utah	38.81	11
Virginia	6.22	22
West Virginia	80.21	6
Wisconsin	.22	45
Wyoming	426.21	2
Median Value	4.875	

B = Base is zero.
Source: U.S. Advisory Commission on Intergovernmental Relations, 1988 State Fiscal Capacity and Effort, Table 5 - 29, M-170, Washington, D.C., August 1990.

Appendix C-2
Estimated Value of Farmland and Buildings Per Capita, By State, 1989

State	Value	Rank
MASSACHUSETTS	**$ 3.16**	**50**
NEW ENGLAND	**11.65**	
Connecticut	5.18	47
Maine	12.07	34
New Hampshire	7.56	45
Rhode Island	3.55	49
Vermont	29.87	13
HIGH TECH	**16.39**	
Arizona	17.61	26
California	11.96	36
Maryland	8.10	42
North Carolina	13.70	31
Texas	28.59	15
Washington	18.39	24
INDUSTRIAL	**9.87**	
Illinois	21.25	23
Michigan	8.08	43
New Jersey	5.28	46
New York	3.56	48
Ohio	11.03	37
Pennsylvania	9.99	39
ALL OTHER STATES	**34.98**	
Alabama	15.19	27
Alaska	8.33	40
Arkansas	32.12	10
Colorado	29.09	14
Delaware	14.02	29
District of Columbia	.00	B
Florida	13.03	32
Georgia	13.74	30
Hawaii	7.98	44
Idaho	63.09	7
Indiana	22.19	20
Iowa	81.61	5
Kansas	54.76	8
Kentucky	23.72	18
Louisiana	12.07	35
Minnesota	30.38	11
Mississippi	26.86	16
Missouri	26.39	17
Montana	95.77	2
Nebraska	83.54	4

Appendix C-2 (cont'd)
Estimated Value of Farmland and Buildings Per Capita, by State, 1989

State	Value	Rank
Nevada	12.48	33
New Mexico	30.13	12
North Dakota	137.63	1
Oklahoma	33.29	9
Oregon	23.33	19
South Carolina	10.17	38
South Dakota	90.44	3
Tennessee	22.01	22
Utah	22.18	21
Virginia	14.14	28
West Virginia	8.28	41
Wisconsin	17.68	25
Wyoming	78.74	6
Median Value	17.65	

B = Base is zero.
Source: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1989. Table No. 1088, Washington, D.C: 1989.

Appendix D

Methodology, Data Sources, and Underlying Data for Estimating Business's Share of State and Local Taxes, Fiscal Year 1990

APPENDIX D
METHODOLOGY, DATA SOURCES, AND UNDERLYING DATA FOR ESTIMATING BUSINESS'S SHARE OF STATE AND LOCAL TAXES FISCAL YEAR 1990

Business's Share of State and Local Taxes is equal to the ratio of State and Local Taxes with an Initial Impact on Business to Total State and Local Taxes:

$$\text{Business's Share} = \frac{\text{State and Local Taxes with an Initial Impact on Business}}{\text{Total State and Local Taxes}}$$

State and Local Taxes with an Initial Impact on Business consist of the following:

1. State and Local Corporate Net Income Taxes
2. Real and Personal Property Taxes on Business
3. State and Local General Sales and Gross Receipts attributed to business
4. Insurance Taxes
5. Severance Taxes
6. State and Local Public Utility Gross Receipts Taxes
7. Various Occupation and Business License Taxes
8. Miscellaneous Business Taxes

DERIVATION OF STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS

1. Corporate Net Income Taxes:

State Corporate Net Income Taxes

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990,** page 11, column: "Corporate Net Income."

Local Corporate Net Income Taxes

A Local Corporate Net Income Tax was levied in only four states in FY 1990: Kentucky, Michigan, New York, and Ohio.

Sources: **Kentucky** - The Kentucky Department of Local Government supplied an estimate of the state's Local Corporate Income Tax (Occupational License Fee) revenues based on a sample of 16 of the largest cities in Kentucky.
Michigan - Local Corporate Net Income tax receipts were supplied by the Michigan Department of Revenue

New York - The New York City Department of Finances quoted Local Corporate Net Income tax receipts from New York City's 1990 "Controller Report."
Ohio - The Ohio Department of Revenue supplied the state's total Local Income Tax revenue (individual and corporate combined) and suggested that business's share be estimated as 10% of that total.

2. **Real and Personal Property Taxes on Business:**

See **Methodology & Data Sources for Estimating Business Property Taxes**

3. **State & Local General Sales and Gross Receipts:**

The Business Portion of General Sales and Gross Receipts was estimated twice for each of the 50 states: once as 20% of total state and local General Sales and Gross Receipts and a second time as 25% of total state and local General Sales and Gross Receipts. The estimated portions of the sales taxes paid by business as a percentage of total state and local general sales and gross receipts revenue were based on an article by Richard F. Fryman entitled "Sales Taxation of Producers' Goods in Illinois" (National Tax Journal, vol. 22, June 1969, pp 273 - 281.)

Source: ACIR, State-Local Government Finance Diskettes for FY 1990, Washington, DC, 1992.
"State-Local, FY 1990, Revenue Diskette," column: "General Sales and Gross Receipts Revenue."

Note: Business's Share as mentioned in the text is based on the business portion of State and Local General Sales and Gross Receipts estimated as 20% of total General Sales and Gross Receipts.

4. **Insurance Taxes:**

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 11, column: "Sales and Gross Receipts; Insurance."

5. **Severance Taxes:**

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 13, column: "Severance."

6. Public Utility Gross Receipts Taxes:

Public Utility Gross Receipts Taxes consist of both a state and a local component.

State Public Utility Gross Receipts

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 10, column: "Sales and Gross Receipts; Selective Sales and Gross Receipts; Public Utilitites."

Local Public Utility Gross Receipts

Source: ACIR, State-Local Government Finance Diskettes for FY 1990, Washington, DC, 1992.
"Local, FY 90, Revenue Diskette," column: "All Selective Sales and Gross Receipts; Public Utility Tax Revenues."

7. Occupation and Business License Taxes:

Occupation and Business License Taxes consist of the following:

Alcohol License Taxes

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 12, column: "License Taxes; Alcoholic Beverages."

Public Utility License Taxes

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 13, column: "License Taxes; Public Utilities."

Corporation Licenses in General

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 12, column: "License Taxes; Corporations in General."

Occupation and Business License Taxes

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 12, column: "License Taxes; Occupations and Business, n.e.c."

Motor Carrier License Taxes

Source: U.S. Bureau of the Census, State Government Tax Collections: 1990.
Table 9, **State Government Tax Collections in Detail for States: 1990 and 1989**, pages 10 - 40, listed by state as "Motor Carrier."

8. Miscellaneous Business Taxes:

Miscellaneous Business Taxes consist of the following:

Amusement License Taxes

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 13, column: "License Taxes; Amusements."

Document and Stock Transfer Taxes

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, page 13, column: "Documentary and Stock Transfer."

Miscellaneous State Business Taxes

Miscellaneous State Business Taxes is equal to the sum of "Other Selective Sales and Gross Receipts" and "Other."

Source: U.S. Bureau of the Census, State Government Finances: 1990.
Table 6, **Tax Revenue of State Governments by Type of Tax and State: 1990**, pages 11 and 13, respectively.

Local and Other Unallocable Business Taxes

Source: ACIR, State-Local Government Finance Diskettes for FY 1990, Washington, DC, 1992.
"Local, FY 1990, Revenue Diskette," column: "Other Taxes, NEC."

9. Total State and Local Taxes on Business:

Total State and Local Taxes on Business is the summation of the preceding eight categories of taxes on business (items 1 - 8).

Note: Two totals appear in the underlying data as a result of using two estimates of the Business Portion of General Sales and Gross Receipts. The first total reflects State and Local Taxes on Business when the Business Portion of General Sales was estimated to be 20% of total General Sales, and the second reflects State and Local Taxes on Business when the Business Portion of General Sales was estimated to be 25%.

10. Total State and Local Taxes:

Source: ACIR, State-Local Government Finance Diskettes for FY 1990, Washington, DC, 1992.
"State-Local, FY 1990, Revenue Diskette," column: "All Tax Revenue."

11. Ratio of Taxes on Business to Total Taxes (Ratio 1):

The Ratio of State and Local Taxes on Business (item 9) to Total State and Local Taxes (item 10) forms the Ratio of Taxes on Business to Total Taxes.

Note that two ratios appear in the underlying data reflecting the use of two separate estimates of the Business Portion of General Sales and Gross Receipts.

12. State and Local Taxes on Business, excluding severance taxes:

Severance taxes are defined as those taxes levied on extractive industries - industries which extract natural products (coal, oil, gas, other minerals, timber, fish, etc.) from land or water.[1] Because consumers often bear a significant amount of the burden of severance taxes there is a strong argument in favor of excluding severance taxes in the calculation of State and Local Taxes on Business. Taking this argument into consideration, a second total of State and Local Taxes on Business was calculated in which severance taxes were

---

[1]U.S. Bureau of the Census. State Government Finances: 1990, A-9.

excluded.

Thus, Total State and Local Taxes on Business, excluding severance taxes is the summation of business tax categories 1 - 4 and 6 - 8 (item 5, severance taxes, is excluded).

Note that two totals appear in the underlying data as a result of using two estimates of the Business Portion of General Sales and Gross Receipts: the first total reflects State and Local Taxes on Business when the Business Portion of General Sales was estimated to be 20% of total general sales, and the second reflects State and Local Taxes on Business when the Business Portion of General Sales was estimated to be 25%.

13. **Ratio of Taxes on Business to Total Taxes (Ratio 2):**

The Ratio of State and Local Taxes on Business, excluding severance taxes (item 12) to Total State and Local Taxes, also excluding severance taxes (item 10 less item 5) forms the Ratio of Taxes on Business to Total Taxes.

Note that two ratios appear in the underlying data to reflect the use of two separate estimates of the Business Portion of General Sales and Gross Receipts.

METHODOLOGY & DATA SOURCES FOR ESTIMATING BUSINESS PROPERTY TAXES FISCAL YEAR 1990[2]

The methodology used to estimate Real and Personal Property Taxes on Business for fiscal year 1990 was based on that used in 1977 by ACIR in Regional Growth: Interstate Competition, Report A-76 (Washington, D.C.: GPO, 1981). However, there have been some modifications made to the procedure. All data used was taken from the U.S. Bureau of the Census' 1987 Census of Governments, vol. 2, "Taxable Property Values" unless otherwise noted.

1. Gross Assessed Real Property Value, locally assessed

Source: Table 2, **Gross and Net Assessed Value of Property Subject to Local General Property Taxation by States: 1986**, page 4, column: "Gross assessed Value (before partial exemptions); Locally assessed property; Real."

2. Real Property Exemptions, total

Source: Table 2, **Gross and Net Assessed Value of Property Subject to Local General Property Taxation by States: 1986**, page 4, column: "Tax exempt portion of gross assessed value; Locally assessed real property."

2a. Real Property Exemptions, acreage

Estimated as follows:

$$\frac{\text{Number of locally assessed taxable Acreage parcels}}{\text{Number of locally assessed Single-family parcels}} \times \text{(line 2)}$$

Source: Table 7, **Number of Locally Assessed Real Property Parcels by Use Category and States: 1986**, page 11, columns: "Acreage" and "Residential (nonfarm); Single-family."

2b. Real Property Exemptions, residential

(line 2 - line 2a)

---

[2]See Appendix Table D-1 for a complete example.

3. Taxable Assessed Value, total

(line 1 - line 2)

4. Gross Assessed Value, acreage

Source: Table 4, **Gross Assessed Value of Locally Assessed Taxable Real Property by Use Category and States: 1986**, page 8, column: "Estimated Distribution; Acreage."

5. Taxable Assessed Value, acreage

(line 4 - line 2a)

6. Taxable Assessed Value, excluding acreage

(line 3 - line 5)

7. Gross Assessed Value, residential real property

Source: Table 4, **Gross Assessed Value of Locally Assessed Taxable Real Property by Use Category and States: 1986**, page 8, column: "Estimated Distribution; Residential (nonfarm); Total."

8. Taxable Assessed Value, residential real property

(line 7 - line 2b)

9. Taxable Assessed Value, Non-Business Personal Property, locally assessed, including motor vehicles and intangibles

Source: Table 14, **Assessed Value of Locally Assessed Personal Property Subject to Local General Property Taxation by Major Classes and States: 1986**, page 135, sum of columns: "Tangible personal property; Household," "Tangible personal property; Motor vehicles," and "Intangibles."

10. Taxable Assessed Value, Residential Real Property and Non-Business Personal Property, including motor vehicles and intangibles, locally assessed

(line 8 + line 9)

11. Vacant lots, locally assessed

Source: Table 4, **Gross Assessed Value of Locally Assessed Taxable Real Property by Use Category and States: 1986**, page 8, column: "Estimated Distribution; Vacant platted lots."

12. Total Non-Business Real and Personal Property, including motor vehicles and intangibles

(lines 5 + 10 + 11)

13. Total Taxable Assessed Value, locally assessed

Source: Table 2, **Gross and Net Assessed Value of Property Subject to Local General Property Taxation by States: 1986**, page 5, column: "Assessed value subject to tax, after deduction of partial exemptions; Locally assessed property; Total."

14. Total Business Real and Personal Property, excluding motor vehicles and intangibles, locally assessed

(line 13 - line 12)

15. State Assessed Business Real and Personal Property, taxable assessed value

Source: Table 2, **Gross and Net Assessed Value of Property Subject to Local General Property Taxation by States: 1986**, page 4, column: "Gross assessed value (before partial exemptions); State assessed property."

METHODOLOGY & DATA SOURCES FOR ESTIMATING
BUSINESS PROPERTY TAXES
FISCAL YEAR 1990

16. Total Taxable Assessed Value of Business Real and Personal Property, locally and state assessed

(line 14 + line 15)

17. Total Taxable Assessed Value, state and locally assessed

Source: Table 2, **Gross and Net Assessed Value of Property Subject to Local General Property Taxation by States: 1986**, page 5, column: "Assessed value subject to tax, after deduction of partial exemptions; Total."

18. Taxable Assessed Value of Business Property, excluding motor vehicles and intangibles

(line 16 as a % of line 17)

19. Total Property Tax Receipts

Source: ACIR, State-Local Government Finance Diskettes for FY 1990, DC, September, 1992.
"State-Local, FY 90, Revenue Diskette," column: "Property Tax Revenue."

20. Total Business Property Tax Receipts, excluding motor vehicles and intangibles

(line 18 x line 19)

APPENDIX TABLE D-1

MASSACHUSETTS ESTIMATED BUSINESS PROPERTY TAXES, FY 1990
(MILLIONS OF DOLLARS)

1.	Gross Assessed Real Property Value, locally assessed	229,390
2.	Real Property Exemptions, total	NA
2a.	Real Property Exemptions, acreage	
2b.	Real Property Exemptions, residential {line 2 - 2a }	0
3.	Taxable Assessed Value, total {line 1 - 2 }	229,390
4.	Gross Assessed Value, acreage	1,976
5.	Taxable Assessed Value, acreage {line 4 - 2a }	1,976
6.	Taxable Assessed Value, excluding acreage {line 3 - 5 }	227,414
7.	Gross Assessed Value, residential real property	172,256
8.	Taxable Assessed Value, residential real property {line 7 - 2b }	172,256
9.	Taxable Assessed Value, Non-Business Personal Property, locally assessed, including motor vehicles & intangibles	
10.	Taxable Assessed Value, Residential Real Property & Non-Business Personal Property, including motor vehicles & intangibles, locally assesed {line 8 + 9 }	172,256
11.	Vacant Lots, locally assessed	7,015
12.	Total Non-Business Real & Personal Property, including motor vehicles & intangibles {line 5 + 10 + 11 }	181,247
13.	Total Taxable Assessed Value, locally assessed	236,414
14.	Total Business Real & Personal Property, excluding motor vehicles & intangibles, locally assessed {line 13 - 12 }	55,167
15.	State Assessed Business Real & Personal Property (TAV)	1,097
16.	Total TAV of Business Real & Personal Property, locally & state assessed {line 14 + 15 }	56,264
17.	Total Taxable Assessed Value, state & locally assessed	235,511
18.	Taxable Assessed Value of Business Property, excluding motor vehicles & intangibles { line 16 as a % of line 17 }	23.89%
19.	Total Property Tax Receipts (from: 1990, S&L Gov't Finances)	4,677.758
20.	Total Business Property Tax Receipts, excluding motor vehicles & intangibles { line 18 x 19 }	1,117.525

BLANK SPACES = Zero or round to zero.
NA = Not available.

APPENDIX TABLE D-2
STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS, FY 1990
(Thousands of Dollars)

STATE	CORPORATE NET INCOME TAXES			REAL & PERSONAL PROPERTY TAXES	LOCAL GENERAL SALES & GROSS RECEIPTS	
	LOCAL	STATE	TOTAL		20% of Total	25% of Total
ALABAMA		179,833	179,833	338,763	325,111	406,389
ALASKA		185,140	185,140	384,599	14,433	18,041
ARIZONA		179,832	179,832	1,213,658	467,394	584,243
ARKANSAS		130,300	130,300	224,947	194,180	242,725
CALIFORNIA		4,928,377	4,928,377	6,582,502	3,418,017	4,272,521
COLORADO		123,357	123,357	1,051,325	333,551	416,939
CONNECTICUT		679,726	679,726	985,244	488,680	610,850
DELAWARE		117,802	117,802	62,503	0	0
FLORIDA		698,825	698,825	2,759,404	1,642,391	2,052,989
GEORGIA		478,218	478,218	1,276,480	701,819	877,274
HAWAII		94,750	94,750	116,844	235,337	294,172
IDAHO		72,692	72,692	153,304	76,618	95,772
ILLINOIS		939,149	939,149	3,110,810	1,124,207	1,405,259
INDIANA		340,978	340,978	1,316,515	510,293	637,866
IOWA		199,558	199,558	432,263	195,029	243,786
KANSAS		210,462	210,462	940,282	215,407	269,259
KENTUCKY	30,000	279,483	309,483	332,890	217,516	271,896
LOUISIANA		393,978	393,978	870,537	494,787	618,484
MAINE		57,658	57,658	306,878	101,800	127,251
MARYLAND		292,552	292,552	949,373	314,373	392,967
MASSACHUSETTS		871,195	871,195	1,117,525	391,293	489,117
MICHIGAN	1,536	1,815,601	1,817,137	2,615,791	637,530	796,913
MINNESOTA		481,854	481,854	956,776	376,764	470,956
MISSISSIPPI		119,985	119,985	458,237	217,814	272,267
MISSOURI		221,471	221,471	960,777	508,527	635,658
MONTANA		80,316	80,316	461,567	0	0
NEBRASKA		71,948	71,948	281,393	119,557	149,446
NEVADA			0	219,581	161,931	202,414
NEW HAMPSHIRE		126,589	126,589	377,690	0	0
NEW JERSEY		1,123,096	1,123,096	2,225,310	658,272	822,840
NEW MEXICO		61,732	61,732	128,865	204,631	255,789
NEW YORK	1,123	1,885,429	1,886,552	8,398,143	2,214,873	2,768,591
NORTH CAROLINA		612,388	612,388	1,050,453	530,296	662,871
NORTH DAKOTA		46,762	46,762	67,982	48,758	60,948
OHIO	194,889	643,428	838,317	2,411,526	827,008	1,033,760
OKLAHOMA		95,920	95,920	423,628	272,881	341,101
OREGON		147,784	147,784	834,943	0	0
PENNSYLVANIA		1,094,778	1,094,778	1,537,566	844,997	1,056,246
RHODE ISLAND		68,828	68,828	190,438	79,485	99,357
SOUTH CAROLINA		150,926	150,926	820,789	289,570	361,963
SOUTH DAKOTA		30,714	30,714	73,819	65,763	82,204
TENNESSEE		332,036	332,036	700,259	613,310	766,637
TEXAS			0	5,840,974	1,849,815	2,312,268
UTAH		94,167	94,167	367,767	170,581	213,227
VERMONT		27,128	27,128	123,224	27,206	34,007
VIRGINIA		306,170	306,170	1,221,312	369,792	462,240
WASHINGTON			0	874,120	1,017,140	1,271,425
WEST VIRGINIA		221,642	221,642	333,838	152,905	191,131
WISCONSIN		436,562	436,562	743,825	401,316	501,645
WYOMING			0	365,817	41,048	51,310
UNITED STATES	227,547	21,751,119	21,978,666	59,593,057	24,164,007	30,205,009

APPENDIX TABLE D-2
STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS, FY 1990
(Thousands of Dollars)

STATE	INSURANCE TAXES	SEVERANCE TAXES	PUBLIC UTILITIES GROSS RECEIPTS		
			LOCAL	STATE	TOTAL
ALABAMA	147,526	59,213	7,771	271,209	278,980
ALASKA	22,691	1,103,812	4,175	2,068	6,243
ARIZONA	128,510		57,099	98,517	155,616
ARKANSAS	46,900	15,562	47,586		47,586
CALIFORNIA	1,170,831	30,854	1,130,632	39,349	1,169,981
COLORADO	83,920	14,402	49,179	4,328	53,507
CONNECTICUT	170,163		0	276,300	276,300
DELAWARE	32,065		1,421	18,358	19,779
FLORIDA	322,915	65,861	806,346	290,017	1,096,363
GEORGIA	169,905		98,549		98,549
HAWAII	38,261		16,746	69,649	86,395
IDAHO	35,630	484	3,858	1,677	5,535
ILLINOIS	166,758		415,730	760,814	1,176,544
INDIANA	107,516	756	0		0
IOWA	86,976		6,875		6,875
KANSAS	70,313	86,620	66,462	450	66,912
KENTUCKY	187,573	213,893	64,228		64,228
LOUISIANA	176,082	429,062	92,056	35,512	127,568
MAINE	47,217		21	525	546
MARYLAND	141,741		102,850	112,391	215,241
MASSACHUSETTS	273,014		0		0
MICHIGAN	78,647	45,570	49,538		49,538
MINNESOTA	122,486	2,076	33,699	44,432	78,131
MISSISSIPPI	87,813	45,558	23,225		23,225
MISSOURI	152,534	35	256,215	65	256,280
MONTANA	26,430	95,740	0	11,308	11,308
NEBRASKA	34,141	2,729	17,615	2,452	20,067
NEVADA	53,244	22,875	23,902	3,969	27,871
NEW HAMPSHIRE	36,450	159	0	8,194	8,194
NEW JERSEY	172,709		222	1,054,183	1,054,405
NEW MEXICO	44,784	292,690	20,826	5,455	26,281
NEW YORK	699,529		302,391	1,092,451	1,394,842
NORTH CAROLINA	178,219	1,540	1,519	252,817	254,336
NORTH DAKOTA	17,848	79,576	2,241	11,489	13,730
OHIO	255,149	9,468	1,214	637,335	638,549
OKLAHOMA	98,842	395,292	58,352	13,463	71,815
OREGON	56,859	52,242	62,846	7,282	70,128
PENNSYLVANIA	352,261		0	556,447	556,447
RHODE ISLAND	37,167		0	72,554	72,554
SOUTH CAROLINA	94,199		32,463	33,422	65,885
SOUTH DAKOTA	24,972	8,578	190	1,117	1,307
TENNESSEE	133,312	1,537	22,527	6,628	29,155
TEXAS	524,901	1,087,854	417,797	198,071	615,868
UTAH	32,364	30,096	37,840	4,616	42,456
VERMONT	17,473		0	11,226	11,226
VIRGINIA	178,619	1,556	280,502	100,657	381,159
WASHINGTON	92,701	69,257	173,060	166,810	339,870
WEST VIRGINIA	52,068	162,692	15,113	9,972	25,085
WISCONSIN	76,882	868	342	225,931	226,273
WYOMING	10,494	254,024	3,871		3,871
UNITED STATES	7,369,604	4,682,531	4,809,094	6,513,510	11,322,604

APPENDIX TABLE D-2
STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS, FY 1990
(Thousands of Dollars)

STATE	OCCUPATION & BUSINESS LICENSE TAXES					
	ALCOHOL	PUBLIC UTILITY	CORPORATION	OCCUPATION & BUSINESS, NEC	MOTOR CARRIER	TOTAL
ALABAMA	2,221	1,715	101,294	82,656	1,525	189,411
ALASKA	1,542		881	37,795		40,218
ARIZONA	1,810		3,987	30,315	10,774	46,886
ARKANSAS	1,104	6,914	7,796	32,613		48,427
CALIFORNIA	32,401	68,557	46,404	486,570		633,932
COLORADO	2,457		3,937	36,780	2,197	45,371
CONNECTICUT	5,728		10,386	62,794	5,452	84,360
DELAWARE	586	3,446	200,201	107,293	3,184	314,710
FLORIDA	25,346	19,146	33,663	172,487		250,642
GEORGIA	1,755		23,627	31,204		56,586
HAWAII		2,365	1,749	11,918	76	16,108
IDAHO	977	2,859	283	18,114		22,233
ILLINOIS	1,994		86,854	75,873		164,721
INDIANA	10,086	63	3,987	23,119	1,874	39,129
IOWA	8,107	6,765	28,990	22,313		66,175
KANSAS	2,581	3,814	12,746	24,797	4,737	48,675
KENTUCKY	1,907	1,900	75,407	25,237	7,334	111,785
LOUISIANA	2,046	3,273	259,111	35,914		300,344
MAINE	1,913		2,445	27,034		31,392
MARYLAND	332		5,403	66,426		72,161
MASSACHUSETTS	1,171		19,136	67,484		87,791
MICHIGAN	11,745	15,625	13,737	66,687		107,794
MINNESOTA	481		2,637	81,550		84,668
MISSISSIPPI	2,213	1,528	43,128	22,556		69,425
MISSOURI	2,427	9,183	61,718	53,850	1,913	129,091
MONTANA	1,619	1,335	790	11,610		15,354
NEBRASKA	241		4,660	22,284		27,185
NEVADA	20		6,204	13,000	30,145	49,369
NEW HAMPSHIRE	2,080	2,719	5,607	16,943		27,349
NEW JERSEY	3,748	1,053	131,236	52,774	8,850	197,661
NEW MEXICO	280	90	1,455	13,524		15,349
NEW YORK	33,701	41,489	21,424	185,928		282,542
NORTH CAROLINA	2,850		132,668	69,572		205,090
NORTH DAKOTA	249		557	12,791	2,595	16,192
OHIO	32,607	694	230,230	140,737	1,464	405,732
OKLAHOMA	2,602	4	31,236	34,339		68,181
OREGON	1,600	6,982	4,291	77,319	137,951	228,143
PENNSYLVANIA	11,182	31,289	603,007	344,048		989,526
RHODE ISLAND	246	130	3,615	10,027	3,814	17,832
SOUTH CAROLINA	8,013		25,531	43,948		77,492
SOUTH DAKOTA	214		694	13,040	3,295	17,243
TENNESSEE	1,459	5,194	196,326	35,712	1,708	240,399
TEXAS	18,595	5,617	608,282	202,690		835,184
UTAH	420			9,159		9,579
VERMONT	377		653	6,493		7,523
VIRGINIA	5,365		22,496	56,048	37,286	121,195
WASHINGTON	7,759	14,117	7,298	141,849		171,023
WEST VIRGINIA	5,824	8,321	4,000	16,859	11,210	46,214
WISCONSIN	183	6	5,337	105,716		111,242
WYOMING		1,560	2,071	1,491	(2,463)	2,659
UNITED STATES	264,164	267,753	3,099,175	3,341,280	274,921	7,247,293

APPENDIX TABLE D-2
STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS, FY 1990
(Thousands of Dollars)

STATE	MISCELLANEOUS BUSINESS TAXES				
	AMUSEMENT LICENSE	DOCUMENTARY & STOCK TRANSFER	MISC. STATE BUSINESS	LOCAL OTHER & UNALLOCABLE	TOTAL
ALABAMA		12,320	70,952	211,869	295,141
ALASKA	182		235	5,178	5,595
ARIZONA	29			47,721	47,750
ARKANSAS	275	6,860	700	14,092	21,927
CALIFORNIA	84		27,663	1,974,182	2,001,929
COLORADO	43		18,384	78,441	96,868
CONNECTICUT	524	59,599	31,860	53,409	145,392
DELAWARE	96	37,572	29,316	12,726	79,710
FLORIDA	7,822	546,676	101,014	306,197	961,709
GEORGIA		16,716	14,718	156,199	187,633
HAWAII		8,090	82,487	15,374	105,951
IDAHO			3,484	8,344	11,828
ILLINOIS	1,083	25,456	109,024	207,966	343,529
INDIANA	390			52,851	53,241
IOWA		3,487		18,583	22,070
KANSAS	90		7,064	30,734	37,888
KENTUCKY	435	2,994	200,352	117,245	321,026
LOUISIANA	105		26,919	85,658	112,682
MAINE	382	10,019		7,277	17,678
MARYLAND	11	71,478	366,461	378,357	816,307
MASSACHUSETTS	670	42,442	56,626	101,188	200,926
MICHIGAN	230		27,126	142,499	169,855
MINNESOTA		38	257,058	82,560	339,656
MISSISSIPPI				23,282	23,282
MISSOURI	1,296		1,711	103,658	106,665
MONTANA	18,628		21,595	7,756	47,979
NEBRASKA		2,634	11,125	31,434	45,193
NEVADA	63,902		4,979	118,553	187,434
NEW HAMPSHIRE	543	29,856	83,839	8,983	123,221
NEW JERSEY	68,272	61,062	19,275	167,560	316,169
NEW MEXICO	140		49,497	20,095	69,732
NEW YORK	70	628,243	216,580	1,046,171	1,891,064
NORTH CAROLINA	4,480		28,987	84,316	117,783
NORTH DAKOTA	182		27,605	6,470	34,257
OHIO				208,194	208,194
OKLAHOMA	4,167	4,522	127,192	20,527	156,408
OREGON	1,519	3,829		182,759	188,107
PENNSYLVANIA	44	201,870	301,876	956,491	1,460,281
RHODE ISLAND	104	4,558	2,792	11,151	18,605
SOUTH CAROLINA	11,577	14,065	46,872	89,626	162,140
SOUTH DAKOTA	130		23,266	9,395	32,791
TENNESSEE		52,897	33,693	75,998	162,588
TEXAS	4,863		1,215,238	115,504	1,335,605
UTAH				22,411	22,411
VERMONT	210	7,989	78,776	2,792	89,767
VIRGINIA	44	89,741	319,003	424,942	833,730
WASHINGTON	179	265,274	87,728	287,387	640,568
WEST VIRGINIA		3,780	104,976	90,727	199,483
WISCONSIN	492	18,587	8,932	57,325	85,336
WYOMING				5,861	5,861
UNITED STATES	193,293	2,232,654	4,246,980	8,288,018	14,960,945

APPENDIX TABLE D-2
STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS, FY 1990
(Thousands of Dollars)

STATE	TOTAL STATE & LOCAL TAXES ON BUSINESS Bus Sales = 20%	TOTAL STATE & LOCAL TAXES ON BUSINESS Bus Sales = 25%	TOTAL STATE & LOCAL TAXES	RATIO 1 RATIO OF TAXES ON BUSINESS TO TOTAL TAXES Bus Sales = 20%	%	RANK
ALABAMA	1,813,978	1,895,256	5,367,082	0.3379822406291	33.80%	11
ALASKA	1,762,731	1,766,339	2,237,760	0.7877213246014	78.77%	1
ARIZONA	2,239,647	2,356,495	7,040,360	0.3181153796113	31.81%	19
ARKANSAS	729,829	778,374	2,993,321	0.243819019918	24.38%	41
CALIFORNIA	19,936,423	20,790,927	66,255,664	0.3009014112786	30.09%	24
COLORADO	1,802,301	1,885,689	6,342,317	0.2841708136947	28.42%	33
CONNECTICUT	2,829,864	2,952,034	8,791,299	0.3218937815242	32.19%	15
DELAWARE	626,569	626,569	1,370,790	0.4570858988518	45.71%	4
FLORIDA	7,798,110	8,208,708	22,593,598	0.3451468943725	34.51%	10
GEORGIA	2,969,191	3,144,646	11,667,015	0.2544944712165	25.45%	38
HAWAII	693,647	752,481	2,875,991	0.2411853385838	24.12%	43
IDAHO	378,324	397,478	1,571,156	0.240793114522	24.08%	44
ILLINOIS	7,025,718	7,306,770	24,022,959	0.2924584726469	29.25%	27
INDIANA	2,368,427	2,496,001	9,043,456	0.2618940565974	26.19%	37
IOWA	1,008,946	1,057,703	5,224,732	0.1931095777984	19.31%	50
KANSAS	1,676,559	1,730,411	4,578,438	0.3661858550733	36.62%	9
KENTUCKY	1,758,395	1,812,774	5,511,001	0.3190699407403	31.91%	18
LOUISIANA	2,905,040	3,028,737	6,590,670	0.4407807123752	44.08%	5
MAINE	563,170	588,620	2,423,966	0.2323340263312	23.23%	46
MARYLAND	2,801,748	2,880,342	11,022,141	0.2541927544794	25.42%	39
MASSACHUSETTS	2,941,744	3,039,568	14,195,746	0.2072271629825	20.72%	48
MICHIGAN	5,521,862	5,681,244	19,219,292	0.2873082683119	28.73%	29
MINNESOTA	2,442,411	2,536,602	10,082,268	0.2422481852982	24.22%	42
MISSISSIPPI	1,045,339	1,099,792	3,251,536	0.3214908303922	32.15%	16
MISSOURI	2,335,379	2,462,511	7,938,085	0.2941993078507	29.42%	26
MONTANA	738,694	738,694	1,434,152	0.5150734352077	51.51%	3
NEBRASKA	602,213	632,102	2,864,258	0.2102509447019	21.03%	47
NEVADA	722,305	762,788	2,314,513	0.3120764576393	31.21%	20
NEW HAMPSHIRE	699,652	699,652	1,874,643	0.373218592356	37.32%	8
NEW JERSEY	5,747,622	5,912,190	19,472,274	0.2951695232	29.52%	25
NEW MEXICO	844,064	895,221	2,560,431	0.3296568988776	32.97%	12
NEW YORK	16,767,545	17,321,263	58,764,950	0.2853324130234	28.53%	31
NORTH CAROLINA	2,950,106	3,082,680	11,103,504	0.265691411567	26.57%	36
NORTH DAKOTA	325,105	337,295	1,002,055	0.3244387711822	32.44%	13
OHIO	5,593,943	5,800,695	19,666,106	0.2844458803588	28.44%	32
OKLAHOMA	1,582,967	1,651,188	4,954,384	0.3195084355714	31.95%	17
OREGON	1,578,206	1,578,206	5,496,977	0.2871043042367	28.71%	30
PENNSYLVANIA	6,835,855	7,047,105	22,084,607	0.3095303193758	30.95%	22
RHODE ISLAND	484,909	504,781	2,043,436	0.2373009888687	23.73%	45
SOUTH CAROLINA	1,661,002	1,733,394	5,446,559	0.304963499672	30.50%	23
SOUTH DAKOTA	255,187	271,628	1,006,794	0.2534653005074	25.35%	40
TENNESSEE	2,212,595	2,365,923	6,822,965	0.3242864921995	32.43%	14
TEXAS	12,090,201	12,552,655	28,243,402	0.4280716969011	42.81%	6
UTAH	769,422	812,067	2,725,872	0.2822662421897	28.23%	34
VERMONT	303,547	310,348	1,130,962	0.2683970924098	26.84%	35
VIRGINIA	3,413,533	3,505,981	11,727,662	0.2910668174441	29.11%	28
WASHINGTON	3,204,679	3,458,964	10,332,030	0.3101693375745	31.02%	21
WEST VIRGINIA	1,193,927	1,232,153	2,801,478	0.4261773723442	42.62%	7
WISCONSIN	2,082,303	2,182,632	10,223,151	0.2036850847258	20.37%	49
WYOMING	683,774	694,036	1,000,527	0.683413645119	68.34%	2
UNITED STATES	151,318,708	157,359,710	499,308,335	0.3030566432412	30.31%	

APPENDIX TABLE D-2
STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS, FY 1990
(Thousands of Dollars)

STATE	TOTAL STATE & LOCAL TAXES ON BUSINESS		TOTAL STATE & LOCAL TAXES	RATIO 1 RATIO OF TAXES ON BUSINESS TO TOTAL TAXES		
	Bus Sales = 20%	Bus Sales = 25%		Bus Sales = 25%	%	RANK
ALABAMA	1,813,978	1,895,256	5,367,082	0.3531260096268	35.31%	11
ALASKA	1,762,731	1,766,339	2,237,760	0.7893337405888	78.93%	1
ARIZONA	2,239,647	2,356,495	7,040,360	0.3347123434029	33.47%	18
ARKANSAS	729,829	778,374	2,993,321	0.2600367927529	26.00%	42
CALIFORNIA	19,936,423	20,790,927	66,255,664	0.3137984852555	31.38%	24
COLORADO	1,802,301	1,885,689	6,342,317	0.2973186664432	29.73%	30
CONNECTICUT	2,829,864	2,952,034	8,791,299	0.3357904650519	33.58%	16
DELAWARE	626,569	626,569	1,370,790	0.4570858988518	45.71%	5
FLORIDA	7,798,110	8,208,708	22,593,598	0.3633200866192	36.33%	10
GEORGIA	2,969,191	3,144,646	11,667,015	0.2695330093516	26.95%	39
HAWAII	693,647	752,481	2,875,991	0.2616424088598	26.16%	40
IDAHO	378,324	397,478	1,571,156	0.252984392791	25.30%	43
ILLINOIS	7,025,718	7,306,770	24,022,959	0.3041577683082	30.42%	26
INDIANA	2,368,427	2,496,001	9,043,456	0.2760007432446	27.60%	36
IOWA	1,008,946	1,057,703	5,224,732	0.2024415875551	20.24%	50
KANSAS	1,676,559	1,730,411	4,578,438	0.3779479014306	37.79%	8
KENTUCKY	1,758,395	1,812,774	5,511,001	0.3289373132921	32.89%	21
LOUISIANA	2,905,040	3,028,737	6,590,670	0.4595491683896	45.95%	4
MAINE	563,170	588,620	2,423,966	0.2428333897711	24.28%	46
MARYLAND	2,801,748	2,880,342	11,022,141	0.2613232475478	26.13%	41
MASSACHUSETTS	2,941,744	3,039,568	14,195,746	0.2141181956905	21.41%	48
MICHIGAN	5,521,862	5,681,244	19,219,292	0.2956011102126	29.56%	3
MINNESOTA	2,442,411	2,536,602	10,082,268	0.25159043845	25.16%	4
MISSISSIPPI	1,045,339	1,099,792	3,251,536	0.338237823198	33.82%	14
MISSOURI	2,335,379	2,462,511	7,938,085	0.3102147133295	31.02%	25
MONTANA	738,694	738,694	1,434,152	0.5150734352077	51.51%	3
NEBRASKA	602,213	632,102	2,864,258	0.2206861778408	22.07%	47
NEVADA	722,305	762,788	2,314,513	0.3295673293691	32.96%	20
NEW HAMPSHIRE	699,652	699,652	1,874,643	0.373218592356	37.32%	9
NEW JERSEY	5,747,622	5,912,190	19,472,274	0.3036209218399	30.36%	27
NEW MEXICO	844,064	895,221	2,560,431	0.3496370311287	34.96%	12
NEW YORK	16,767,545	17,321,263	58,764,950	0.2947550059125	29.48%	33
NORTH CAROLINA	2,950,106	3,082,680	11,103,504	0.2776312550615	27.76%	35
NORTH DAKOTA	325,105	337,295	1,002,055	0.3366033230282	33.66%	15
OHIO	5,593,943	5,800,695	19,666,106	0.2949589961734	29.50%	32
OKLAHOMA	1,582,967	1,651,188	4,954,384	0.3332781090565	33.33%	19
OREGON	1,578,206	1,578,206	5,496,977	0.2871043042367	28.71%	34
PENNSYLVANIA	6,835,855	7,047,105	22,084,607	0.3190957669294	31.91%	22
RHODE ISLAND	484,909	504,781	2,043,436	0.2470254431702	24.70%	45
SOUTH CAROLINA	1,661,002	1,733,394	5,446,559	0.3182549282602	31.83%	23
SOUTH DAKOTA	255,187	271,628	1,006,794	0.2697951058101	26.98%	38
TENNESSEE	2,212,595	2,365,923	6,822,965	0.3467587531594	34.68%	13
TEXAS	12,090,201	12,552,655	28,243,402	0.4444455618484	44.44%	6
UTAH	769,422	812,067	2,725,872	0.2979109056221	29.79%	29
VERMONT	303,547	310,348	1,130,962	0.2744109549446	27.44%	37
VIRGINIA	3,413,533	3,505,981	11,727,662	0.2989497185714	29.89%	28
WASHINGTON	3,204,679	3,458,964	10,332,030	0.3347806627449	33.48%	17
WEST VIRGINIA	1,193,927	1,232,153	2,801,478	0.4398223661653	43.98%	7
WISCONSIN	2,082,303	2,182,632	10,223,151	0.2134989767441	21.35%	49
WYOMING	683,774	694,036	1,000,527	0.6936702898672	69.37%	2
UNITED STATES	151,318,708	157,359,710	499,308,335	0.3151553834915	31.52%	

APPENDIX TABLE D-2
STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS, FY 1990
(Thousands of Dollars)

STATE	TOTAL STATE & LOCAL TAXES ON BUSINESS, excluding Severance Taxes		TOTAL STATE & LOCAL TAXES EXCLUDING SEVERANCE	RATIO 2 RATIO OF TAXES ON BUSINESS TO TOTAL TAXES		
	Bus Sales = 20%	Bus Sales = 25%		Bus Sales = 20%	%	RANK
ALABAMA	1,754,765	1,836,043	5307869	0.3305969683879	33.06%	11
ALASKA	658,919	662,527	1133948	0.5810842043374	58.11%	1
ARIZONA	2,239,647	2,356,495	7040360	0.3181153796113	31.81%	14
ARKANSAS	714,267	762,812	2977759	0.2398671593369	23.99%	44
CALIFORNIA	19,905,569	20,760,073	66224810	0.3005757027132	30.06%	20
COLORADO	1,787,899	1,871,287	6327915	0.2825416243107	28.25%	29
CONNECTICUT	2,829,864	2,952,034	8791299	0.3218937815242	32.19%	13
DELAWARE	626,569	626,569	1370790	0.4570858988518	45.71%	4
FLORIDA	7,732,249	8,142,847	22527737	0.3432323975728	34.32%	10
GEORGIA	2,969,191	3,144,646	11667015	0.2544944712165	25.45%	37
HAWAII	693,647	752,481	2875991	0.2411853385838	24.12%	42
IDAHO	377,840	396,994	1570672	0.2405591661658	24.06%	43
ILLINOIS	7,025,718	7,306,770	24022959	0.2924584726469	29.25%	23
INDIANA	2,367,671	2,495,245	9042700	0.2618323484689	26.18%	35
IOWA	1,008,946	1,057,703	5224732	0.1931095777984	19.31%	50
KANSAS	1,589,939	1,643,791	4491818	0.3539634139072	35.40%	9
KENTUCKY	1,544,502	1,598,881	5297108	0.2915745275516	29.16%	24
LOUISIANA	2,475,978	2,599,675	6161608	0.4018396200521	40.18%	6
MAINE	563,170	588,620	2423966	0.2323340263312	23.23%	46
MARYLAND	2,801,748	2,880,342	11022141	0.2541927544794	25.42%	38
MASSACHUSETTS	2,941,744	3,039,568	14195746	0.2072271629825	20.72%	48
MICHIGAN	5,476,292	5,635,674	19173722	0.2856144207525	28.56%	26
MINNESOTA	2,440,335	2,534,526	10080192	0.2420921274803	24.21%	41
MISSISSIPPI	999,781	1,054,234	3205978	0.3118489923169	31.18%	15
MISSOURI	2,335,344	2,462,476	7938050	0.2941961958743	29.42%	22
MONTANA	642,954	642,954	1338412	0.4803854099111	48.04%	3
NEBRASKA	599,484	629,373	2861529	0.2094977721246	20.95%	47
NEVADA	699,430	739,913	2291638	0.3052096440188	30.52%	18
NEW HAMPSHIRE	699,493	699,493	1874484	0.3731654266614	37.32%	8
NEW JERSEY	5,747,622	5,912,190	19472274	0.2951695232	29.52%	21
NEW MEXICO	551,374	602,531	2267741	0.2431378818172	24.31%	40
NEW YORK	16,767,545	17,321,263	58764950	0.2853324130234	28.53%	27
NORTH CAROLINA	2,948,566	3,081,140	11101964	0.2655895525422	26.56%	34
NORTH DAKOTA	245,529	257,719	922479	0.2661626908114	26.62%	33
OHIO	5,584,475	5,791,227	19656638	0.2841012198729	28.41%	28
OKLAHOMA	1,187,675	1,255,896	4559092	0.2605070222448	26.05%	36
OREGON	1,525,964	1,525,964	5444735	0.2802641004548	28.03%	30
PENNSYLVANIA	6,835,855	7,047,105	22084607	0.3095303193758	30.95%	16
RHODE ISLAND	484,909	504,781	2043436	0.2373009888687	23.73%	45
SOUTH CAROLINA	1,661,002	1,733,394	5446559	0.304963499672	30.50%	19
SOUTH DAKOTA	246,609	263,050	998216	0.2470500811037	24.71%	39
TENNESSEE	2,211,058	2,364,386	6821428	0.3241342408437	32.41%	12
TEXAS	11,002,347	11,464,801	27155548	0.4051601912213	40.52%	5
UTAH	739,326	781,971	2695776	0.2742533675387	27.43%	31
VERMONT	303,547	310,348	1130962	0.2683970924098	26.84%	32
VIRGINIA	3,411,977	3,504,425	11726106	0.2909727452916	29.10%	25
WASHINGTON	3,135,422	3,389,707	10262773	0.3055141043166	30.55%	17
WEST VIRGINIA	1,031,235	1,069,461	2638786	0.3907988494406	39.08%	7
WISCONSIN	2,081,435	2,181,764	10222283	0.2036174676048	20.36%	49
WYOMING	429,750	440,012	746503	0.5756839612299	57.57%	2
UNITED STATES	146,636,177	152,677,179	494625804	0.2964588093901	29.65%	

APPENDIX TABLE D-2
STATE AND LOCAL TAXES WITH AN INITIAL IMPACT ON BUSINESS, FY 1990
(Thousands of Dollars)

STATE	TOTAL STATE & LOCAL TAXES ON BUSINESS, excluding Severance Taxes		TOTAL STATE & LOCAL TAXES EXCLUDING SEVERANCE	RATIO 2 RATIO OF TAXES ON BUSINESS TO TOTAL TAXES		
	Bus Sales = 20%	Bus Sales = 25%		Bus Sales = 25%	%	RANK
ALABAMA	1,754,765	1,836,043	5307869	0.345909676746	34.59%	12
ALASKA	658,919	662,527	1133948	0.5842661844635	58.43%	2
ARIZONA	2,239,647	2,356,495	7040360	0.3347123434029	33.47%	14
ARKANSAS	714,267	762,812	2977759	0.2561696875133	25.62%	42
CALIFORNIA	19,905,569	20,760,073	66224810	0.3134787854099	31.35%	20
COLORADO	1,787,899	1,871,287	6327915	0.2957194008769	29.57%	26
CONNECTICUT	2,829,664	2,952,034	8791299	0.3357904650519	33.58%	13
DELAWARE	626,569	626,569	1370790	0.4570858988518	45.71%	4
FLORIDA	7,732,249	8,142,847	22527737	0.3614587200836	36.15%	10
GEORGIA	2,969,191	3,144,646	11667015	0.2695330093516	26.95%	37
HAWAII	693,647	752,481	2875991	0.2616424088598	26.16%	40
IDAHO	377,840	396,994	1570672	0.2527542011572	25.28%	43
ILLINOIS	7,025,718	7,306,770	24022959	0.3041577683082	30.42%	22
INDIANA	2,367,671	2,495,245	9042700	0.2759402144824	27.59%	34
IOWA	1,008,946	1,057,703	5224732	0.2024415875551	20.24%	50
KANSAS	1,589,939	1,643,791	4491818	0.3659522789948	36.60%	9
KENTUCKY	1,544,502	1,598,881	5297108	0.3018403367441	30.18%	24
LOUISIANA	2,475,978	2,599,675	6161608	0.4219150127093	42.19%	6
MAINE	563,170	588,620	2423966	0.2428333897711	24.28%	46
MARYLAND	2,801,748	2,880,342	11022141	0.2613232475478	26.13%	41
MASSACHUSETTS	2,941,744	3,039,568	14195746	0.2141181956905	21.41%	48
MICHIGAN	5,476,292	5,635,674	19173722	0.2939269721706	29.39%	29
MINNESOTA	2,440,335	2,534,526	10080192	0.2514363046547	25.14%	44
MISSISSIPPI	999,781	1,054,234	3205978	0.328833965389	32.88%	16
MISSOURI	2,335,344	2,462,476	7938050	0.3102116719673	31.02%	21
MONTANA	642,954	642,954	1338412	0.4803854099111	48.04%	3
NEBRASKA	599,484	629,373	2861529	0.2199429571988	21.99%	47
NEVADA	699,430	739,913	2291638	0.3228751086341	32.29%	17
NEW HAMPSHIRE	699,493	699,493	1874484	0.3731654266614	37.32%	8
NEW JERSEY	5,747,622	5,912,190	19472274	0.3036209218399	30.36%	23
NEW MEXICO	551,374	602,531	2267741	0.2656967851487	26.57%	38
NEW YORK	16,767,545	17,321,263	58764950	0.2947550059125	29.48%	27
NORTH CAROLINA	2,948,566	3,081,140	11101964	0.2775310522625	27.75%	33
NORTH DAKOTA	245,529	257,719	922479	0.2793765959518	27.94%	32
OHIO	5,584,475	5,791,227	19656638	0.2946193995331	29.46%	28
OKLAHOMA	1,187,675	1,255,896	4559092	0.2754705829713	27.55%	35
OREGON	1,525,964	1,525,964	5444735	0.2802641004548	28.03%	31
PENNSYLVANIA	6,835,855	7,047,105	22084607	0.3190957669294	31.91%	18
RHODE ISLAND	484,909	504,781	2043436	0.2470254431702	24.70%	45
SOUTH CAROLINA	1,661,002	1,733,394	5446559	0.3182549282602	31.83%	19
SOUTH DAKOTA	246,609	263,050	998216	0.2635202138205	26.35%	39
TENNESSEE	2,211,058	2,364,386	6821428	0.3466115652397	34.66%	11
TEXAS	11,002,347	11,464,801	27155548	0.4221899948548	42.22%	5
UTAH	739,326	781,971	2695776	0.290072690064	29.01%	30
VERMONT	303,547	310,348	1130962	0.2744109549446	27.44%	36
VIRGINIA	3,411,977	3,504,425	11726106	0.2988566924433	29.89%	25
WASHINGTON	3,135,422	3,389,707	10262773	0.3302915158408	33.03%	15
WEST VIRGINIA	1,031,235	1,069,461	2638786	0.4052851131998	40.53%	7
WISCONSIN	2,081,435	2,181,764	10222283	0.2134321929455	21.34%	49
WYOMING	429,750	440,012	746503	0.5894307914503	58.94%	1
UNITED STATES	146,636,177	152,677,179	494625804	0.3086720861766	30.87%	

Appendix Table D-3
Business's Share: State and Local Taxes with an Initial Impact on Business as a Percentage of Total State and Local Taxes, Fiscal Year 1990, by State, Excluding Severance Taxes

State	Ratio of Taxes on Business to Total Taxation	Rank
Alaska	58.11	1
Wyoming	57.57	2
Montana	48.04	3
Delaware	45.71	4
Texas	40.52	5
Louisiana	40.18	6
West Virginia	39.08	7
New Hampshire	37.32	8
Kansas	35.40	9
Florida	34.32	10
Alabama	33.06	11
Tennessee	32.41	12
Connecticut	32.19	13
Arizona	31.81	14
Mississippi	31.18	15
Pennsylvania	30.95	16
Washington	30.55	17
Nevada	30.52	18
South Carolina	30.50	19
California	30.06	20
New Jersey	29.52	21
Missouri	29.42	22
Illinois	29.25	23
Kentucky	29.16	24
Virginia	29.10	25
Michigan	28.56	26
New York	28.53	27
Ohio	28.41	28
Colorado	28.25	29
Oregon	28.03	30
Utah	27.43	31
Vermont	26.84	32
North Dakota	26.62	33
North Carolina	26.56	34
Indiana	26.18	35
Oklahoma	26.05	36
Georgia	25.45	37
Maryland	25.42	38
South Dakota	24.71	39
New Mexico	24.31	40
Minnesota	24.21	41
Hawaii	24.12	42
Idaho	24.06	43
Arkansas	23.99	44
Rhode Island	23.73	45
Maine	23.23	46
Nebraska	20.95	47
Massachusetts	20.72	48
Wisconsin	20.36	49
Iowa	19.31	50
United States	29.65	

Source: Calculations by the Staff of the Massachusetts Special Commission on Business Tax Policy. See Methodology for sources of underlying data.

Appendix E

Capital Intensity, by State, Fiscal Year 1990
Methodology, Data Sources, and Underlying Data

APPENDIX E
CAPITAL INTENSITY, BY STATE, FY 1990
METHODOLOGY, DATA SOURCES, AND UNDERLYING DATA

Calculating Capital Intensity

For each state and the U.S. capital intensity was calculated as the ratio of total private capital stock to total employment.

Private Capital Stock

Source: Munnell, Alicia H. "How Does Public Infrastructure Affect Regional Economic Performance?" New England Economic Review, Sept./Oct. 1990, pp 11 - 32.

Estimates of private capital stocks for each state were available for the following sectors: agricultural, manufacturing, and nonfarm/nonmanufacturing.

Note that the estimate of capital stock in the nonfarm/ nonmanufacturing sector consists of the sum of the following subsectors: construction, mining, retail and wholesale trade, banking, railroad transportation, trucking and warehousing, water transportation, air transportation, electric services, gas services, telephone and telegraph services, and services (hotels, personal services, business services, auto repair services, amusement services, and legal services).

The total private capital stock for each state was determined as the sum of private capital stocks in the agricultural, manufacturing, and nonfarm/nonmanufacturing sectors

The total private capital stock for the U.S. was calculated as the sum of the total private capital stocks of each state.

Employment data

Source: U.S. Department of Commerce, Bureau of Economic Analysis

Total employment for each state and the U.S. was calculated as the sum of employment in the following categories:

Code	
70	Farm
190	Manufacturing
	(Nonfarm, Nonmanufacturing)
180	Construction
130	Mining
510	Wholesale Trade
520	Retail Trade

Employment categories cont'd

Code	
540	Banking and Credit Agencies
450	Railroad Transportation
460	Trucking and Warehousing
470	Water Transportation
482	Air Transportation
500	Electric, Gas and Sanitary Services
490	Communication
570	Hotels and Other Lodging Places
580	Personal Services
601	Business Services
602	Auto Repair Services
611	Amusement Services
622	Legal Services

Note that employment data represents the number of full-time and part-time employees, by industry.

APPENDIX TABLE E-1
CAPITAL INTENSITY, BY STATE, FY 1990

STATE	K/L RATIO	RANK
ALASKA	271.34	1
WYOMING	107.12	2
LOUISIANA	88.42	3
NORTH DAKOTA	80.94	4
WEST VIRGINIA	71.04	5
MONTANA	67.86	6
NEW MEXICO	60.16	7
TEXAS	57.94	8
OKLAHOMA	55.98	9
KANSAS	53.63	10
ALABAMA	49.97	11
KENTUCKY	49.90	12
INDIANA	46.87	13
SOUTH DAKOTA	46.22	14
MICHIGAN	46.21	15
DELAWARE	46.03	16
NEBRASKA	45.56	17
MISSISSIPPI	45.29	18
IOWA	43.48	19
ILLINOIS	43.35	20
ARKANSAS	42.43	21
SOUTH CAROLINA	42.08	22
ARIZONA	41.42	23
IDAHO	41.41	24
WASHINGTON	41.07	25
OHIO	40.94	26
NEVADA	40.90	27
NEW YORK	40.44	28
PENNSYLVANIA	40.27	29
OREGON	39.06	30
GEORGIA	38.88	31
UTAH	38.82	32
NEW JERSEY	38.67	33
COLORADO	38.55	34
TENNESSEE	38.42	35
MINNESOTA	38.03	36
MISSOURI	37.62	37
CONNECTICUT	37.61	38
VERMONT	37.14	39
MAINE	37.06	40
CALIFORNIA	36.98	41
MASSACHUSETTS	36.71	42
NORTH CAROLINA	36.18	43
VIRGINIA	35.85	44
WISCONSIN	35.78	45
MARYLAND	34.60	46
FLORIDA	33.61	47
NEW HAMPSHIRE	31.79	48
HAWAII	29.41	49
RHODE ISLAND	27.76	50
US	42.59	

APPENDIX TABLE E-2
CAPITAL INTENSITY, BY STATE, FY 1990

STATE	K/L RATIO	RANKED BY K/L RATIO	RANKED BY BUSINESS'S SHARE INCLUDING SEVERANCE TAXES
ALASKA	271.34	1	1
WYOMING	107.12	2	2
LOUISIANA	88.42	3	5
NORTH DAKOTA	80.94	4	13
WEST VIRGINIA	71.04	5	7
MONTANA	67.86	6	3
NEW MEXICO	60.16	7	12
TEXAS	57.94	8	6
OKLAHOMA	55.98	9	17
KANSAS	53.63	10	9
ALABAMA	49.97	11	11
KENTUCKY	49.90	12	18
INDIANA	46.87	13	37
SOUTH DAKOTA	46.22	14	40
MICHIGAN	46.21	15	29
DELAWARE	46.03	16	4
NEBRASKA	45.56	17	47
MISSISSIPPI	45.29	18	16
IOWA	43.48	19	50
ILLINOIS	43.35	20	27
ARKANSAS	42.43	21	41
SOUTH CAROLINA	42.08	22	23
ARIZONA	41.42	23	19
IDAHO	41.41	24	44
WASHINGTON	41.07	25	21
OHIO	40.94	26	32
NEVADA	40.90	27	20
NEW YORK	40.44	28	31
PENNSYLVANIA	40.27	29	22
OREGON	39.06	30	30
GEORGIA	38.88	31	38
UTAH	38.82	32	34
NEW JERSEY	38.67	33	25
COLORADO	38.55	34	33
TENNESSEE	38.42	35	14
MINNESOTA	38.03	36	42
MISSOURI	37.62	37	26
CONNECTICUT	37.61	38	15
VERMONT	37.14	39	35
MAINE	37.06	40	46
CALIFORNIA	36.98	41	24
MASSACHUSETTS	36.71	42	48
NORTH CAROLINA	36.18	43	36
VIRGINIA	35.85	44	28
WISCONSIN	35.78	45	49
MARYLAND	34.60	46	39
FLORIDA	33.61	47	10
NEW HAMPSHIRE	31.79	48	8
HAWAII	29.41	49	43
RHODE ISLAND	27.76	50	45
US	42.59		

APPENDIX TABLE E-3
CAPITAL INTENSITY, BY STATE, FY 1990

STATE	K/L RATIO	RANKED BY K/L RATIO	RANKED BY BUSINESS'S SHARE EXCLUDING SEVERANCE TAXES
ALASKA	271.34	1	36
WYOMING	107.12	2	2
LOUISIANA	88.42	3	1
NORTH DAKOTA	80.94	4	4
WEST VIRGINIA	71.04	5	5
MONTANA	67.86	6	3
NEW MEXICO	60.16	7	31
TEXAS	57.94	8	12
OKLAHOMA	55.98	9	15
KANSAS	53.63	10	11
ALABAMA	49.97	11	23
KENTUCKY	49.90	12	13
INDIANA	46.87	13	7
SOUTH DAKOTA	46.22	14	21
MICHIGAN	46.21	15	18
DELAWARE	46.03	16	9
NEBRASKA	45.56	17	25
MISSISSIPPI	45.29	18	8
IOWA	43.48	19	6
ILLINOIS	43.35	20	14
ARKANSAS	42.43	21	10
SOUTH CAROLINA	42.08	22	22
ARIZONA	41.42	23	44
IDAHO	41.41	24	16
WASHINGTON	41.07	25	42
OHIO	40.94	26	17
NEVADA	40.90	27	49
NEW YORK	40.44	28	35
PENNSYLVANIA	40.27	29	24
OREGON	39.06	30	34
GEORGIA	38.88	31	28
UTAH	38.82	32	32
NEW JERSEY	38.67	33	33
COLORADO	38.55	34	41
TENNESSEE	38.42	35	29
MINNESOTA	38.03	36	30
MISSOURI	37.62	37	20
CONNECTICUT	37.61	38	45
VERMONT	37.14	39	38
MAINE	37.06	40	37
CALIFORNIA	36.98	41	43
MASSACHUSETTS	36.71	42	46
NORTH CAROLINA	36.18	43	27
VIRGINIA	35.85	44	40
WISCONSIN	35.78	45	26
MARYLAND	34.60	46	50
FLORIDA	33.61	47	48
NEW HAMPSHIRE	31.79	48	47
HAWAII	29.41	49	51
RHODE ISLAND	27.76	50	39
US	42.59		

APPENDIX TABLE E-4
EMPLOYMENT & CAPITAL STOCK, BY STATE - FY 1990
(Employment & Capital Stock in Millions)

STABR	LINE	CATEGORY	EMPLOYMENT (MILLIONS)	K-STOCK	K/L RATIO
US	NEW	TOTAL EMPLOYMENT	84986.3	3619775	42.59
	70	FARM	3119	150100	48.12
	190	MANUFACTURING	19732	1022346	51.81
	NEW	NONFARM, NONMANUFACTURING	62135.3	2447328	39.39
AL	NEW	TOTAL EMPLOYMENT	1287.951	64354.48	49.9666
	70	FARM	62.666	1827.632	29.1646
	190	MANUFACTURING	398.479	22482.49	56.4208
	NEW	NONFARM, NONMANUFACTURING	826.806	40044.35	48.4326
AK	NEW	TOTAL EMPLOYMENT	155.62	42226.39	271.343
	70	FARM	0.726	73.88438	101.769
	190	MANUFACTURING	18.426	1648.22	89.4508
	NEW	NONFARM, NONMANUFACTURING	136.468	40504.29	296.804
			0		
AZ	NEW	TOTAL EMPLOYMENT	1115.557	46210.99	41.4241
	70	FARM	19.783	2290.597	115.786
	190	MANUFACTURING	192.011	8726.574	45.4483
	NEW	NONFARM, NONMANUFACTURING	903.763	35193.82	38.9414
			0		
AR	NEW	TOTAL EMPLOYMENT	808.678	34312.42	42.4303
	70	FARM	66.237	2728.804	41.1976
	190	MANUFACTURING	238.484	10159.36	42.5998
	NEW	NONFARM, NONMANUFACTURING	503.957	21424.25	42.5121
CA	NEW	TOTAL EMPLOYMENT	9982.562	369163.1	36.9808
	70	FARM	257.222	11453.35	44.5271
	190	MANUFACTURING	2224.022	93218.53	41.9144
	NEW	NONFARM, NONMANUFACTURING	7501.318	264491.2	35.2593
CO	NEW	TOTAL EMPLOYMENT	1213.163	46769.11	38.5514
	70	FARM	43.357	3016.751	69.5793
	190	MANUFACTURING	200.947	9787.65	48.7076
	NEW	NONFARM, NONMANUFACTURING	968.859	33964.71	35.0564
CT	NEW	TOTAL EMPLOYMENT	1201.903	45205.25	37.6114
	70	FARM	9.779	392.9025	40.1782
	190	MANUFACTURING	350.733	15009.34	42.7942
	NEW	NONFARM, NONMANUFACTURING	841.391	29803	35.4211
DE	NEW	TOTAL EMPLOYMENT	267.95	12334.6	46.0332
	70	FARM	4.712	272.9647	57.9297
	190	MANUFACTURING	73.107	3958.058	54.1406
	NEW	NONFARM, NONMANUFACTURING	190.131	8103.573	42.621
FL	NEW	TOTAL EMPLOYMENT	4145.352	139338.8	33.6133
	70	FARM	91.08	4599.923	50.5042
	190	MANUFACTURING	542.162	22859.42	42.1634
	NEW	NONFARM, NONMANUFACTURING	3512.11	111879.5	31.8553
GA	NEW	TOTAL EMPLOYMENT	2351.974	91436.71	38.8766
	70	FARM	73.397	2450.113	33.3817
	190	MANUFACTURING	570.252	28821.09	50.541
	NEW	NONFARM, NONMANUFACTURING	1708.325	60165.51	35.219
HI	NEW	TOTAL EMPLOYMENT	381.479	11218.68	29.4084

APPENDIX TABLE E-4
EMPLOYMENT & CAPITAL STOCK, BY STATE - FY 1990
(Employment & Capital Stock in Millions)

STABR	LINE	CATEGORY	EMPLOYMENT (MILLIONS)	K-STOCK	K/L RATIO
	70	FARM	14.338	682.7157	47.6158
	190	MANUFACTURING	24.473	1449.878	59.244
	NEW	NONFARM, NONMANUFACTURING	342.668	9086.087	26.5157
ID	NEW	TOTAL EMPLOYMENT	334.655	13858.09	41.4101
	70	FARM	35.82	2057.722	57.4462
	190	MANUFACTURING	67.884	3295.329	48.5435
	NEW	NONFARM, NONMANUFACTURING	230.951	8505.034	36.8261
IL	NEW	TOTAL EMPLOYMENT	4053.842	175719.1	43.3463
	70	FARM	110.927	8957.055	80.7473
	190	MANUFACTURING	1001.472	54113.99	54.0345
	NEW	NONFARM, NONMANUFACTURING	2941.443	112648.1	38.2969
IN	NEW	TOTAL EMPLOYMENT	2074.786	97251.81	46.8732
	70	FARM	86.521	4752.33	54.9269
	190	MANUFACTURING	649.246	41758.89	64.3191
	NEW	NONFARM, NONMANUFACTURING	1339.019	50740.59	37.8939
IA	NEW	TOTAL EMPLOYMENT	1063.013	46219.02	43.4793
	70	FARM	131.54	7695.445	58.5027
	190	MANUFACTURING	240.616	12609.6	52.4055
	NEW	NONFARM, NONMANUFACTURING	690.857	25913.97	37.5099
KS	NEW	TOTAL EMPLOYMENT	913.032	48961.71	53.6254
	70	FARM	83.887	4898.495	58.394
	190	MANUFACTURING	189.404	10237.83	54.0529
	NEW	NONFARM, NONMANUFACTURING	639.741	33825.38	52.8736
KY	NEW	TOTAL EMPLOYMENT	1113.153	55551.18	49.9044
	70	FARM	124.003	3184.012	25.6769
	190	MANUFACTURING	134.28	16359.55	121.832
	NEW	NONFARM, NONMANUFACTURING	854.87	36007.62	42.1206
LA	NEW	TOTAL EMPLOYMENT	1183.597	104648.5	88.4157
	70	FARM	43.743	1825.664	41.7361
	190	MANUFACTURING	188.236	29792.04	158.27
	NEW	NONFARM, NONMANUFACTURING	951.618	73030.81	76.7438
ME	NEW	TOTAL EMPLOYMENT	436.952	16194.71	37.0629
	70	FARM	11.729	339.5996	28.9538
	190	MANUFACTURING	109.508	7724.434	70.5376
	NEW	NONFARM, NONMANUFACTURING	315.715	8130.675	25.7532
MD	NEW	TOTAL EMPLOYMENT	1519.382	52569.67	34.5994
	70	FARM	22.185	1322.085	59.5936
	190	MANUFACTURING	211.892	12253.76	57.8302
	NEW	NONFARM, NONMANUFACTURING	1285.305	38993.83	30.3382
MA	NEW	TOTAL EMPLOYMENT	2141.221	78606.25	36.7109
	70	FARM	12.664	511.7381	40.4089
	190	MANUFACTURING	536.255	24021.05	44.7941
	NEW	NONFARM, NONMANUFACTURING	1592.302	54073.46	33.9593
MI	NEW	TOTAL EMPLOYMENT	3012.131	139183.8	46.2077
	70	FARM	79.685	2693.231	33.7985

APPENDIX TABLE E-4
EMPLOYMENT & CAPITAL STOCK, BY STATE - FY 1990
(Employment & Capital Stock in Millions)

STABR	LINE	CATEGORY	EMPLOYMENT (MILLIONS)	K-STOCK	K/L RATIO
	190	MANUFACTURING	912.677	57276.47	62.7566
	NEW	NONFARM, NONMANUFACTURING	2019.769	79214.07	39.2194
MN	NEW	TOTAL EMPLOYMENT	1696.299	64511.54	38.0308
	70	FARM	116.811	5079.652	43.4861
	190	MANUFACTURING	415.999	16937.37	40.7149
	NEW	NONFARM, NONMANUFACTURING	1163.489	42494.52	36.5234
MS	NEW	TOTAL EMPLOYMENT	772.406	34981.45	45.2889
	70	FARM	54.52	1853.293	33.9929
	190	MANUFACTURING	255.605	11660.96	45.621
	NEW	NONFARM, NONMANUFACTURING	462.281	21467.2	46.4375
MO	NEW	TOTAL EMPLOYMENT	1934.591	72774.13	37.6173
	70	FARM	126.094	4708.162	37.3385
	190	MANUFACTURING	446.547	19263.86	43.1396
	NEW	NONFARM, NONMANUFACTURING	1361.95	48802.11	35.8325
MT	NEW	TOTAL EMPLOYMENT	253.157	17178.09	67.8555
	70	FARM	31.276	3025.469	96.7345
	190	MANUFACTURING	25.023	1502.266	60.0354
	NEW	NONFARM, NONMANUFACTURING	196.858	12650.36	64.2613
NE	NEW	TOTAL EMPLOYMENT	616.507	28090.65	45.5642
	70	FARM	72.216	5303.011	73.4326
	190	MANUFACTURING	104.189	3994.685	38.3408
	NEW	NONFARM, NONMANUFACTURING	440.102	18792.95	42.7014
NV	NEW	TOTAL EMPLOYMENT	520.791	21298.74	40.8969
	70	FARM	5.658	528.2025	93.355
	190	MANUFACTURING	27.876	1233.556	44.2516
	NEW	NONFARM, NONMANUFACTURING	487.257	19536.98	40.0958
NH	NEW	TOTAL EMPLOYMENT	423.497	13463.85	31.7921
	70	FARM	4.491	214.4962	47.7613
	190	MANUFACTURING	112.921	4336.316	38.4013
	NEW	NONFARM, NONMANUFACTURING	306.085	8913.038	29.1195
NJ	NEW	TOTAL EMPLOYMENT	2726.167	105418.8	38.6692
	70	FARM	15.18	852.3762	56.1513
	190	MANUFACTURING	612.831	29808.02	48.6399
	NEW	NONFARM, NONMANUFACTURING	2098.156	74758.36	35.6305
NM	NEW	TOTAL EMPLOYMENT	410.278	24684.01	60.1641
	70	FARM	19.225	1906.011	99.1423
	190	MANUFACTURING	45.642	2089.854	45.788
	NEW	NONFARM, NONMANUFACTURING	345.411	20688.15	59.8943
NY	NEW	TOTAL EMPLOYMENT	5536.115	223897.5	40.4431
	70	FARM	64.867	2199.87	33.9135
	190	MANUFACTURING	1174.393	54020.43	45.9986
	NEW	NONFARM, NONMANUFACTURING	4296.855	167677.2	39.0232
NC	NEW	TOTAL EMPLOYMENT	2619.293	94761.45	36.1783
	70	FARM	94.273	2967.593	31.4787
	190	MANUFACTURING	880.852	39154.82	44.4511

APPENDIX TABLE E-4
EMPLOYMENT & CAPITAL STOCK, BY STATE - FY 1990
(Employment & Capital Stock in Millions)

STABR	LINE	CATEGORY	EMPLOYMENT (MILLIONS)	K-STOCK	K/L RATIO
	NEW	NONFARM, NONMANUFACTURING	1644.168	52639.04	32.0156
ND	NEW	TOTAL EMPLOYMENT	222.918	18043.59	80.9427
	70	FARM	41.687	3407.175	81.7323
	190	MANUFACTURING	18.918	1074.506	56.7981
	NEW	NONFARM, NONMANUFACTURING	162.313	13561.91	83.5541
OH	NEW	TOTAL EMPLOYMENT	3778.806	154710.9	40.9417
	70	FARM	106.893	4608.614	43.1143
	190	MANUFACTURING	1124.35	61993.48	55.1372
	NEW	NONFARM, NONMANUFACTURING	2547.563	88108.79	34.5855
OK	NEW	TOTAL EMPLOYMENT	995.112	55705.92	55.9796
	70	FARM	81.88	3733.888	45.602
	190	MANUFACTURING	173.003	9540.029	55.1437
	NEW	NONFARM, NONMANUFACTURING	740.229	42432.01	57.3228
OR	NEW	TOTAL EMPLOYMENT	1011.427	39509.46	39.0631
	70	FARM	63.392	2351.312	37.0916
	190	MANUFACTURING	235.3	10934.41	46.4701
	NEW	NONFARM, NONMANUFACTURING	712.735	26223.74	36.7931
PA	NEW	TOTAL EMPLOYMENT	3902.047	157121.9	40.2665
	70	FARM	79.566	3149.764	39.5868
	190	MANUFACTURING	1042.613	51062.4	48.9754
	NEW	NONFARM, NONMANUFACTURING	2779.868	102909.8	37.0197
RI	NEW	TOTAL EMPLOYMENT	334.585	9287.586	27.7585
	70	FARM	1.544	69.54439	45.0417
	190	MANUFACTURING	104.312	3155.148	30.2472
	NEW	NONFARM, NONMANUFACTURING	228.729	6062.894	26.5069
SC	NEW	TOTAL EMPLOYMENT	1248.745	52551.09	42.0831
	70	FARM	36.336	1037.005	28.5393
	190	MANUFACTURING	391.037	22748.1	58.1738
	NEW	NONFARM, NONMANUFACTURING	821.372	28765.99	35.0219
SD	NEW	TOTAL EMPLOYMENT	252.252	11658.87	46.2192
	70	FARM	41.876	3016.593	72.0363
	190	MANUFACTURING	36.093	981.2734	27.1874
	NEW	NONFARM, NONMANUFACTURING	174.283	7661.007	43.9573
TN	NEW	TOTAL EMPLOYMENT	1841.608	70757.15	38.4214
	70	FARM	109.682	2926.505	26.6817
	190	MANUFACTURING	532.192	23851.79	44.818
	NEW	NONFARM, NONMANUFACTURING	1199.734	43978.85	36.6572
TX	NEW	TOTAL EMPLOYMENT	5559.22	322089.3	57.9379
	70	FARM	243.293	16631.09	68.3583
	190	MANUFACTURING	1020.173	83013.44	81.3719
	NEW	NONFARM, NONMANUFACTURING	4295.754	222444.8	51.7825
UT	NEW	TOTAL EMPLOYMENT	537.808	20879.31	38.823
	70	FARM	18.655	1035.501	55.508
	190	MANUFACTURING	111.377	4091.469	36.7353
	NEW	NONFARM, NONMANUFACTURING	407.776	15752.34	38.6299

APPENDIX TABLE E-4
EMPLOYMENT & CAPITAL STOCK, BY STATE - FY 1990
(Employment & Capital Stock in Millions)

STABR	LINE	CATEGORY	EMPLOYMENT (MILLIONS)	K-STOCK	K/L RATIO
VT	NEW	TOTAL EMPLOYMENT	219.243	8143.138	37.1421
	70	FARM	10.028	389.5531	38.8465
	190	MANUFACTURING	52.446	3345.164	63.783
	NEW	NONFARM, NONMANUFACTURING	156.769	4408.421	28.1205
VA	NEW	TOTAL EMPLOYMENT	2147.731	76994.84	35.8494
	70	FARM	62.953	2558.543	40.6421
	190	MANUFACTURING	437.226	22720.13	51.9643
	NEW	NONFARM, NONMANUFACTURING	1647.552	51716.17	31.3897
WA	NEW	TOTAL EMPLOYMENT	1683.55	69138.18	41.0669
	70	FARM	79.993	2932.906	36.6645
	190	MANUFACTURING	383.925	19053.2	49.6274
	NEW	NONFARM, NONMANUFACTURING	1219.632	47152.08	38.6609
WV	NEW	TOTAL EMPLOYMENT	487.503	34631.88	71.0393
	70	FARM	24.019	555.8373	23.1416
	190	MANUFACTURING	91.685	6921.746	75.4949
	NEW	NONFARM, NONMANUFACTURING	371.799	27154.29	73.0349
WI	NEW	TOTAL EMPLOYMENT	1862.587	66642.05	35.7793
	70	FARM	114.063	3872	33.9462
	190	MANUFACTURING	568.657	25109.88	44.1565
	NEW	NONFARM, NONMANUFACTURING	1179.867	37660.17	31.919
WY	NEW	TOTAL EMPLOYMENT	182.185	19514.78	107.115
	70	FARM	12.528	1159.014	92.5139
	190	MANUFACTURING	11.053	1184.609	107.175
	NEW	NONFARM, NONMANUFACTURING	137.96	17171.15	124.465